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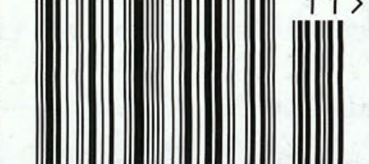
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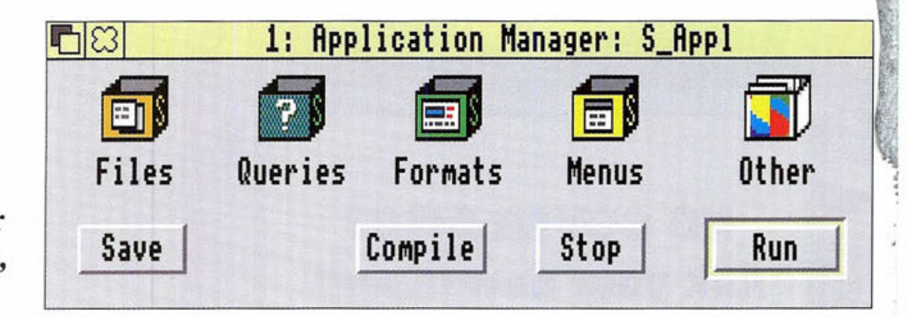
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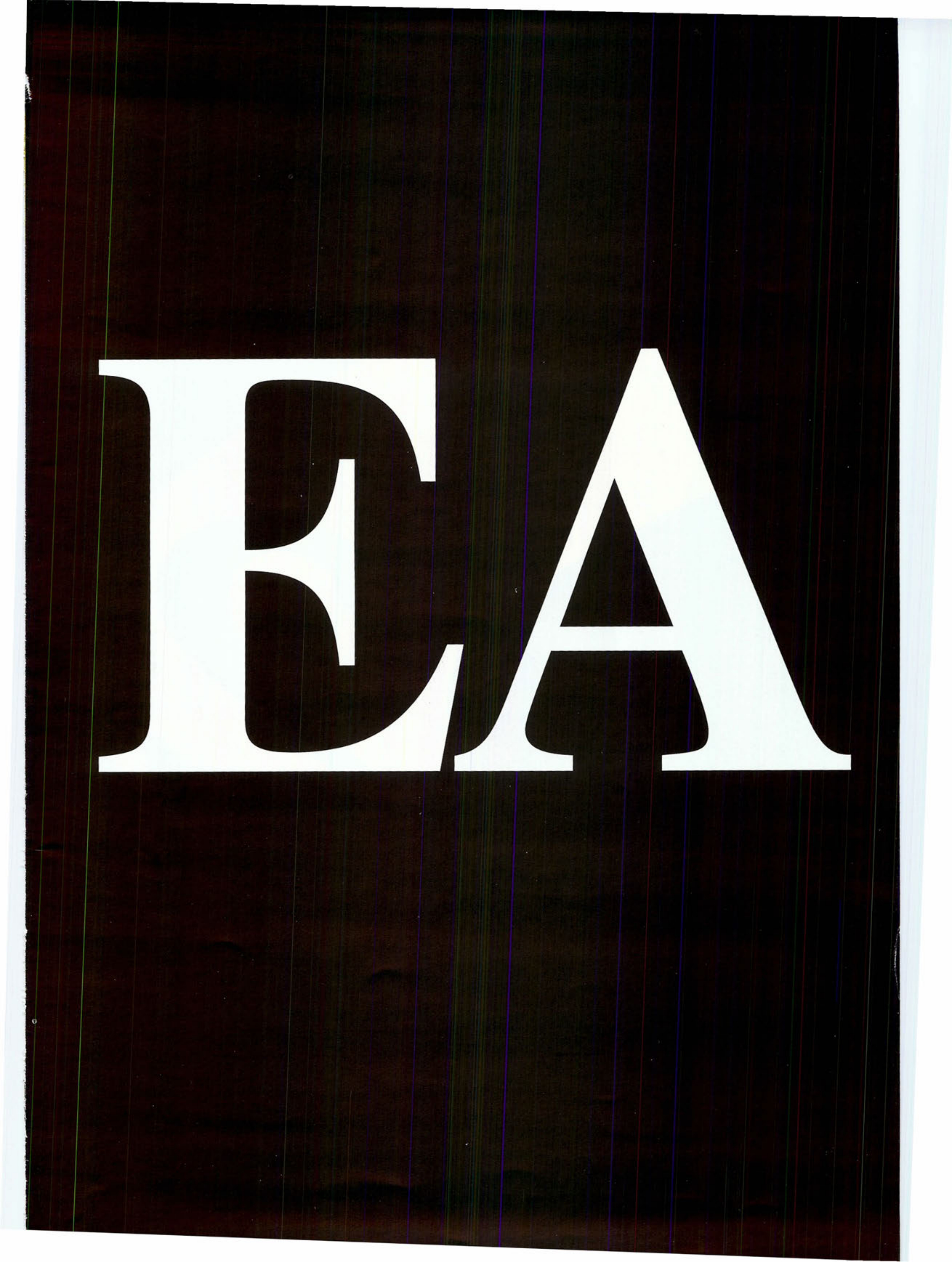
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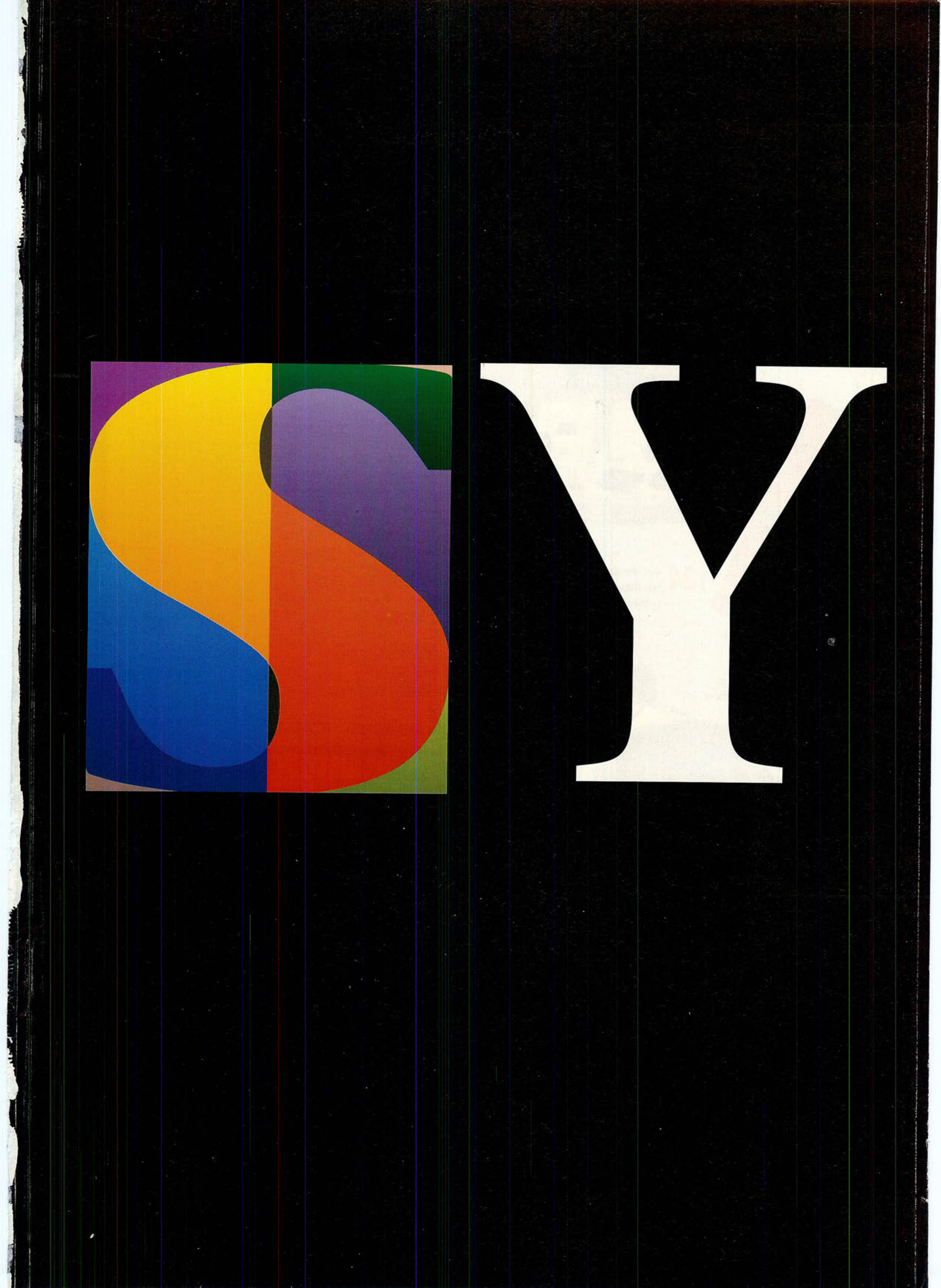
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Editor's letter

There's so much packed into this month's issue, that it is hard to know where to begin. For many the highlight of the year will be all those new products for the Acorn World show – over 50 releases at the last count. See our exclusive show coverage for full details. Also this month, the fastest-ever Acorn machine was announced. At the same time, Acorn launched a new price-cutting campaign – providing the cheapest-ever Risc machine.
Finallly, there is the premiere of *PhotoCD*, an exclusive review of the graphics package *ProArtisan 2* and all of our regulars.

Karen Donaghay

EXCLUSIVELY PRODUCED ON ACORN MACHINES
All the editorial pages in *BBC Acorn User* are produced using Acorn computers, Computer Concepts' *Impression 2*, LaserDirect printers and Taxan monitors

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OCTOBER 1993

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Play It Again Sam 1	Superior	£20
Plot	Clares	£POA
Podd, KS1,2	ESM	£25
Podd – Welsh, KS1,2	ESM	£38
Polyominoes	Topologika	£26
Populous	Krisalis	£22
Poster	4mation	£75
PowerROUTER	Silicon	£159
Prehistoric Animals, sprites	Micro Studio	£16
Premier	Circle	£71
– DataBase	Circle	£25
– WordProc	Circle	£25
Presenter GTi	Lingenuity	£66
PrimeArt, KS1-4	Minerva	£68
PrimeMover, KS2-4	Minerva	£75
PrimeSolver, KS1-4	Minerva	£POA
PrimeWord, KS2-4	Minerva	£51
Printer Drivers, RISC OS: Canon BubbleJet, Canon LBP, Canon PJ1080, ColourCel, Epson JX, Epson ESC-P2, HP, Integrex 132 – each	Ace	£19
Deskjet 500C, Epson / Star colour – each	RISC	£15
ProDrivers: Canon LBP8, Epson ESC-P2, HP Colourjet – each	Ace	£37
TurboDrivers: Canon, Epson Stylus 800, HP – each	CC	£42
ProArtisan 2	Clares	£109

ProCAD, KS4	Minerva	£394
Programming in ANSI Standard C on the Archimedes	Sigma	v0 £15
Prophet (requires 2 Mb)	Apricote	£145
Prophet Entry Level	Apricote	£10
ProSHEET	Silicon	£36
Protext	Arnor	£117
Provocator	Computer Tutorial	£15
Puncman 1 and 2	Chalksoft	£16
Puncman 3 and 4	Chalksoft	£16
Puncman 5 to 7	Chalksoft	£18
Punctuate	Xavier	£31
Punctuate!	Topologika	£25
QDBug	Leading Edge	£58
Quest for Gold	Krisalis	£19
QuicKey	ICS	£10
– site licence		£30
Real McCoy 2	Fourth Dim	£23
Real McCoy 3	Fourth Dim	£23
Real McCoy 4	Fourth Dim	£27
Recall, age 8-13	Sherston	£37
Redshift	Minerva	£10
RemoteFS	Atomwide	£45
Render Bender 2	Clares	£77
Repton 3	Superior	£19
Resultz	Colton	£109
Revelation 1	Longman	£39
Revelation 2	Longman	£75
Revelation 2 CD Rom	Longman	£98
Revelation ImagePro	Longman	£127
Reversals	Chalksoft	£17
Rhapsody 2	Clares	£44
Rhapsody 3	Clares	£79
Rhythm-Bed	Clares	£38
RhythmBox II, age 8+	EMR	£34
RiscBASIC Compiler	Silicon	£77
RiscForth Compiler	Silicon	£72
RISC OS 3 First Steps	Dabs	v0 £POA
RISC OS 3 Programmer's Reference Manual	Acorn	v0 £99
RISC OS Companion Vol 1	Oak	v0 £49
RISC OS Style Guide	Acorn	v0 £13
RoboLogo	Silicon	£38
Round the World Yacht Race, age 9+	Storm	£25
Saloon Cars Deluxe	Fourth Dim	£25
– **Deluxe Extra Courses**	Fourth Dim	**£14**
S-Base Developer	Longman	**£140**
S-Base Developer Plus	Longman	£255
S-Base Network	Longman	£275
S-Base Personal	Longman	**£70**
Schema	Clares	£95
Schema 2	Clares	£POA
Science, drawfiles	Micro Studio	£25
Score Draw	Clares	£44
Scorewriter PMS Desktop, age 12+	EMR	£147
ScreenPlay	Widgit	£35
ScreenTurtle version 2	Topologika	£45
Search and Rescue, age 9+	Storm	£27
Seashore Guide, drawfiles	Micro Studio	£16
Seelinks – Ourselves, KS1,2	ESM	£27
Seelinks – Pond Watch, KS2	ESM	£35
Seelinks – Tourism, KS3	ESM	£55
Seelinks – Transport, KS2	ESM	£35
Serenade	Clares	£106
Serpents	CIS	£POA
Settlement, KS3	ESM	£31
ShapeFX	Data Store	£10
ShareHolder	Silicon	£96
ShareHolder Professional	Silicon	£164
ShowPage	CC	£143
Shylock Gnomes, age 10-15	Selective	£16
Sim City	Krisalis	£22
SkyHunter	Longman	£22
Sleuth	RISC	£42
smArt	4mation	£50
smArt Aliens, Animals, Dinosaurs, Egypt, Europe*, Faces*, Fantasy, Fashion, Fiddles & Drums, Heraldry, Homes*, Leisure*, Look Smart, Smartoons, Trees and Gardens *Please specify English, French, German, Spanish or Welsh – each	4mation	£15
smArtFiler	4mation	£32
smArt Modern Languages	4mation	£19
Smudge the Spaniel, age 4-8	Storm	£20
Snippet (new version)	4mation	£32
Soapbox	Xavier	£34
SolidCAD	Silicon	£77
SolidsRender	Silicon	£77
SolidTools	Silicon	£204
– education price		£194
SongBook, age 3-10	EMR	£24
Sound Engineer, age 12+	EMR	£59
Sound-FX Maker	CIS	£POA
Sound-FX Maker & Photopia	CIS	£POA
Sounds & Rhymes	Xavier	£29
Spark	David Pilling	£5
SparkFS	David Pilling	£20
Sparkle	Morley	£59

STAND 41

Special	ICS	£10
– site licence		£30
Speech!	Superior	£18
Spelling week-by-week	Chalksoft	£20
Spex	ExpLAN	£98
Spheres of Chaos	Matt Black	£19
Splash, age 7-11	Sherston	£19
Splice	Ace	£34
Split an Image, age 7-16	Sherston	£16
Spoken Word	Wyddfa	£16
Spooler	Computer Tutorial	£9
Sporting Triangles	CDS	£19
SportsDay	Selective	£20
SportsPeople	Selective	£20
SpriteEd	Computer Tutorial	£17
SpySnatcher	Topologika	£12
Square Route	Computer Eyes	£16
Squirrel	Digital Services	£120
Starspell Plus	Fisher-Marriott	£19
StartWrite	Icon	£55
StockPack	Topologika	£37
StoryBook, age 3-10	EMR	£59
StrongED	Stallion	£22
Studio24Plus Version 2, age 11+	EMR	£149
Studio24Plus Version 3, age 12+	EMR	£210
Stunt Racer	Fourth	£25
SUMthing	Resource	£19
SuperDump	Silicon	£20
Superior Golf	Superior	£14
SuperPlot	Silicon	£20
Swiv	Krisalis	£19
TABS	ExpLAN	£95
Talisman	Minerva	£8
Talking Pendown	Longman	£54
Talking Pictures	Wyddfa	£16
Target Maths	Triple R	£15
Technodream (Nevryon 2)	Superior	£19
TechWriter	Icon	£159
Thinklink	Xavier	£29
ThinkSheet	Fisher-Marriott	£38
Thundermonk	Minerva	£11
Tiles	Brain Games	£16
Timeshare	Fisher-Marriott	£19
Timetabler	Minerva	£549
Time Traveller, KS2	ESM	£37
– Britain Since the 1930s, KS2		£30
– Expansion, Trade and Industry, KS3		£36
– Making of the United Kingdom,KS3		£36
– Medieval Realms, KS3		£36
– The Victorians, KS2		£30
TinyDraw/TinyPuzzle	Topologika	£34
TinyPuzzle	Topologika	£24
Titler	Clares	£115
Toolkit Plus	Clares	£36
Tools Graphics, drawfiles	Micro Studio	£23
Topographer	Clares	£61
Touch Type	Iota	£38
Tower of Babel	Cygnus	£17
Trace	David Pilling	£5
Tracer	Midnight	£46
Tracker	Leading Edge	£37
Transport, drawfiles	Micro Studio	£25
Turbo Type	CIS	£POA
Turbo Type, Sound-FX Maker, E-Numix	CIS	£POA
Tween	Ace	£35
Twin World	UBI Soft	£14
TWO (Task and Window Organiser)	ICS	£10
– site licence		£30
TypeStudio	RISC	£38
Utility Disc 1	Data Store	£8
Utility Disc 2	Data Store	£13
Utility Disc 3	Data Store	£7
Utility Collection	Data Store	£21
Vector	4mation	£75
View»Mac 3	Human	£65
– Arc/Mac Cable	Human	£24
Viewpoints, age 7-11	Sherston	£37
Virtual Golf	Fourth Dim	£25
Visual Backup	Dabhand	£39
Vox Box	Clares	£44
Walter	Digital Services	£35
Waterloo (not OS 3.1)	Turcan	£19
Whale Facts	Topologika	£31
Wordbank	Topologika	£25
Words and Pictures	Chalksoft	£18
WordWorks	CC	£38
Wordz	Colton	£85
World Geography Maps, draw	Micro Studio	£23
WorldMaker, KS3,4	ESM	£51
World Map Study, KS3,4	ESM	£61
Worldscape	Leading Edge	£17
World Wildlife, sprites	Micro Studio	£16
Worra Battle	Oak	£15
WorraCAD	Oak	£79
Yacht 2	Computer Tutorial	£49
Yacht 7	Computer Tutorial	£94
Zarch	Superior	£14
Zelanites (not OS 3)	Micro Power	£15
Zool	Gremlin	£19

ICS

051-625 1006

HARDWARE

I^{2}C PRODUCTS . . .

AnDi Oddule	Baildon	£39
I^{2}C Adaptor (needed unless you already have an I^{2}C socket)	Baildon	£10
I^{2}C SWI (enhanced IIC_Control)	Baildon	£15
– bought with Oddule		£5

SCANNERS, DIGITISERS . . .

ArcScanner including Epson GT-4000	Clares	£1660
Colour Converter	Lindis	£145
FaxScan	Spacetech	£94
GreyHawk	Wild Vision	£98
Handipad	TechSoft	£193
Hawk V9 MkII	Wild Vision	
– standard		£199
– hardware dithered		£259
HiVision Digitiser Colour	HCCS	
– A3000 External		£137
– A3000 Series / A4000 Internal		£124
– A5000 / 300 / 400		£124
iMage (Sharp JX-100)	Irlam	
– for A5000		£490
– for other computers		£589
Image Scanner	Iota	£383
– Colour Upgrade Kit	Iota	£239
– Fast Parallel Card	Iota	£98
i-Scan 200	Irlam	£539
i-Scan 400	Irlam	£589
Pineapple Colour Video Digitiser	Pineapple	£195
– A3000 boxed	Pineapple	£230
ProImage (Epson GT6000)	Irlam	
– for A5000		£989
– for other computers		£1089
Scan-Light A4	CC	£277
Scan-Light 256	CC	£185
– A3000 External	CC	£190
– A3000 internal	CC	£190
Scan-Light Professional	CC	£565
– as above + SCSI interface	CC	£699
Scan-Light Video	CC	£208
SnapShot Colour Video Digitiser	Lingenuity	£195
– A3000 version	Lingenuity	£275
Spectra	RISC	
– A3000 Series / A4000 Internal		£545
– A3000 External		£555
– Archimedes / A5000		£545
Vision Digitiser	HCCS	
– A5000 / 300 / 400 Mono		£48
– A5000 / 300 / 400 Colour		£76
– A3000 External Mono		£60
– A3000 External Colour		£89
– A3000 Series /A4000 Internal Mono		£48
– A3000 Series / A4000 Internal Colour		£76

MEMORY . . .

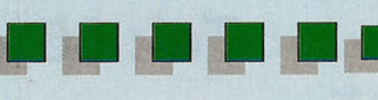
Fitting extra unless otherwise stated
† Fitting fairly easy ‡ Fitting needs expertise

A3000 2 Mb Upgradable †	Atomwide/IFEL	£43
A3000 4 Mb †	Atomwide/IFEL	£100
A3010 1-2 Mb		£39
A3020 / A4000 2-4 Mb †	IFEL	£POA
A310 2 Mb Upgradable soldered ‡	IFEL	£88
– as above + MEMC1a		£113
– as above + MEMC1a + fitting		£143
A310 4 Mb soldered + MEMC1a ‡	IFEL	£152
– as above + fitting		£182
A5000 2-4 Mb †	Atomwide	£85
A5000 2-8 Mb including fitting	Atomwide	£500
A5000 4-8 Mb including fitting	Atomwide	£391
A540 4 Mb †	Acorn	£238

PRINTERS . . .

ArcLaser 300-6	Calligraph	£895
ArcServer 300-8	Calligraph	£985
Bubble Jet BJ-10sx	Canon	£187
Bubble Jet BJ-10sx + TurboDriver	Canon/CC	£219
Bubble Jet BJ-200	Canon	£282
Bubble Jet BJ-230	Canon	£315

For ordering details please turn to page 3





Bubble Jet BJ-300	Canon	£325
Bubble Jet BJ-330	Canon	£380
Bubble Jet BJC-800 + TurboDriver	Canon/CC	£1374
DeskJet 510	Hewlett-Packard	£275
DeskJet 500C	Hewlett-Packard	£375
DeskJet 550C	Hewlett-Packard	£525
Laser Direct HiRes4	CC	£899
– 250-sheet Paper Cassette		£99
Laser Direct HiRes8	CC	£1275
Laser Direct HiRes Board	CC	£325
New toner cartridge for Canon LBP-4		£59
New toner cartridge for Canon LBP-8		£75

COMPUTERS . . .

A3010 Action Pack	Acorn	£335
A3010 Learning Curve System	Acorn	£599
A3020 FD System	Acorn	£650
A3020 HD60 System	Acorn	£775
A4 2M FD System	Acorn	£1350
A4 4M HD60 System	Acorn	£1650
A4 Battery Pack	Acorn	£53
A4 Shoulder Bag	Acorn	£37
A5000 2M HD80 Multiscan System	Acorn	£1225
Pocket Book	Acorn	£210

MISCELLANEOUS. . .

386 PC Expansion Card 25 MHz	Aleph One	
– 1 Mb		£POA
– 4 Mb		£POA
486 PC Expansion Card	Aleph One	
– 1 Mb		£POA
– 4 Mb		£POA
4-slot 4-layer Backplane	IFEL	£52
5315 Monitor	Aydin	£425
A300/400 Fan kit	ICS	£15
A3000 Expansion Box	Wild Vision	£135
A310 RISC OS Carrier Board ‡	IFEL	£18
A5000 Fitting Kit for second hard disc	ICS	£15
A5000 105 Mb Removable Disc Kit		£POA
– Extra 105 Mb Disc		£POA
Arckey Function KeyStrip Holder	ICS	V0 £3
– pack of 4		V0 £10
ArcNET	ACS	£69
ARM3 ‡	Aleph One/IFEL	£165
Arm_Stick	Arm_Tech	£28
ColourBurst	State	£374
ColourCard	CC	£225
– A3000 External	CC	£225
Dongle Dangle with screw fittings	ICS	£6
Fan filters (pack of 10) (not A5000)	ICS	£6
FaxPack	CC	£289
Floating Point Accelerator (A5000 + A540)	Acorn	£93
Floppy Discs, 10 x 3½" High Density		£10
G16 True Colour Card	State	£258
G8 Plus Accelerator	State	£238
HiPoint Mouse for A4	Genius	£49
Microlin fx Pocket Fax Modem	Pace	£179
Micro Mouse	Clares	£26
Monitor Stand for A3000	ICS	£21
Mono/SCSI	Atomwide	£48
Podule Case for A3000	HCCS	£16
Printer Port Sampler	Leading Edge	£42
Printer/SCSI	Atomwide	£74
Publishing Pack	CC	£475
Revolution CD-ROM	Morley	£295
Revolution Pro (for SCSI system)	Morley	£435
RISC OS 3 Upgrade	Acorn	£45
– A5000	Acorn	£25
Seal 'n Type spill-proof Keyboard Covers		
– Archimedes / A5000	Kador	£14
– A3000	Kador	£14
TouchWindow	Lindis	£234
Whisper Fan Quietener (for A300/A400 series only)	ICS	£15
Wizzo IDE Filing System on rom	ICS	
– Wizzo4 for A4		£POA
– Wizzo5 for A5000		£39

"You wonder how you ever managed without QuicKey."
NOW ONLY £10

"Congratulations on ColourSep! The results, compared with the drivers currently available, are bordering on the fantastic."
NOW ONLY £15



"TWO is the best thing I've ever bought."
NOW ONLY £10

As well as letting you type all those extra characters, Special is the easiest way to examine new fonts.

"DrawBender is quite stunning."
NOW ONLY £10

Padlock is our top seller for simple disc security.

"Fontasy offers a wider range of effects than FontFX. It is a package for the perfectionist, whether professional or enthusiast."
NOW ONLY £15

HOW TO ORDER

VAT: Zero-rated items are marked V0. UK customers please add 17.5% to all other prices. EC customers outside the UK (including BFPO) please do the same unless you are VAT registered, in which case quote your international VAT number. Ours is GB 595 7258 84.

CARRIAGE IS FREE WITHIN MAINLAND UK IF YOU PAY ON ORDERING.

Overseas carriage: If you are paying by credit card we will add airmail and insurance at cost. Otherwise please add £6 (Europe) or at least £12 (elsewhere) for each software item and send a pounds sterling bank draft payable at a London clearing bank, or Eurocheques for not more than £100 each.

Credit cards are welcome. We do not charge your account until your order is fulfilled. Your name and address must be as known to the credit card company. If you are leaving an order on our answering machine please include your telephone number, the expiry date of your card, and your calculation of the total payment due. We will make no charge for credit card commission unless we have informed you first.

Official orders are welcome from UK government and educational institutions. Payment is due in 14 days. Invoices are subject to carriage and late payment charges.

Site licences are available for most products. Please check our prices.

All products, prices and specifications are offered in good faith and are subject to change without notice. We process all orders immediately, but suppliers do sometimes keep us waiting. Goods are guaranteed but we do not supply them on approval. Returns and cancellations can only be accepted by prior agreement and there may be a charge to cover the costs involved.



AUTHORISED ACORN DEALER

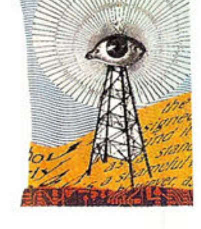
ICS (Ian Copestake Limited)

Dept B48, 1 Kington road, WIRRAL, Merseyside, L48 5ET

Tel: 051-625 1006 Fax: 051-625 1007

E&OE D61 93ASE08

LICENSED CREDIT BROKER



ACORN REVAMPS RANGE

THE fastest-yet Archimedes has been unveiled in the form of a revised A5000, and Acorn has revamped its whole range of machine packs and prices.

The new software bundles and price cuts are to spearhead Acorn's autumn and Christmas campaign. The basic A3010 drops from £499 to £399 inc. VAT – the cheapest Risc machine yet – and comes supplied as standard with a new 'edutainment' bundle called the Action Pack. Revised Learning Curve and Home Office packs are also cheaper.

The Action Pack includes *Zool* plus five demos for *Lemmings*, *Chuck Rock*, *Superpool* and *Fervour*. Icon's *StartWrite* word processor is included too, along with an audio training tape.

The revised Learning Curve Pack is now based around the *Advance* integrated suite, the *PC Emulator* with DR Dos 6 and the tape. Additionally, eight demos of selected applications is supplied.

With the Home Office pack comes Icon's *EasiWriter* word processor, Iota's *DataPower* database, *Pipedream 4* from Colton and the *PC Emulator*. Demos of *Prophet* accounts package and the *Almanac* organiser are included.

The A5000 now has a 33MHz Arm3 processor, which makes it about 20% faster than before. A matching 33MHz version of the FPA10 chip will follow. Upgrading the new A5000 to 8Mb has been made simpler by putting the Memc1a chip in a socket.



Bringing the Office into your Home



The new Learning Curve

Product details

	Base	L/Curve	Home
A3010 Action Pack (1Mb)	£399		
A3010 (2Mb, AKF30)		£749	
A4000 (2Mb, 80Mb HD, AKF30)	£999	£1049	£1099
A4000 (2Mb, 80Mb HD, AKF30)	£1049	£1099	£1149
A5000 (2Mb, 80Mb HD, AKF18)	£1499	£1549	£1599
A5000 (4Mb, 160Mb HD, AKF18)	£1699	£1749	£1799

All prices include VAT

AKF30 = standard monitor, AKF18 = multiscan monitor.

ACORN VIDEO

ACORN is planning its annual Christmas advertising campaign with a few twists. A full programme of press advertising is planned, including the national papers.

Instead of backing this up with TV ads, Acorn is opting for a free promotional video campaign. Acorn's philosophy is that if you're interested enough to contact them, in response to the campaign, a free video is a worthwhile spend.

The video's primary aim is to 'demystify' home computing. The Jackson family navigates through the hazards of choosing a computer with host John Leslie, of Blue Peter.

Acorn's Richard Percy commented: 'Understanding the customer is vital in deciding which marketing channel best reaches the audience.

By addressing the customer on an individual basis in the home, our video concept is by far the most focused and personal approach.'


John Leslie, Blue Peter presenter, is now selling the benefits of Acorn

THE ACORN USER COVER DISC

Thank you to all of you who have phoned and written to us with positive feedback about our new cover disc. The main reason behind this important move was reader demand, and we confidently expect our cover disc to improve the magazine over the next few months. We will be including more and more complete applications, and will be using the space left in the magazine by the departure of the yellow pages to provide you with more in-depth coverage of the Acorn scene. We always welcome letters and views on any aspects of the magazine, so do keep writing in.



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The ideA range

ICS was the first company to offer IDE products for Acorns back in 1990; now they are the standard choice for new Acorn computers. Building on three years' experience we have continually improved our IDE filing system. It now offers the highest level of RISC OS compliance, and compatibility with at least 45 different hard discs tested by us. Can any other supplier make this claim?

Our IDEFS abolishes the RISC OS limit of 512 Mb, and offers extra features such as password protection, background operation, disc partitioning, and power saving (which allows some discs to stop spinning when idle).

Partitions can have different levels of protection. Family or pupils can access some of your files while you keep others safely out of their reach. Or you can simply protect the whole disc (reformatting is not required for this).

Our hard disc upgrade kits are based around two internal interfaces at present: IDEA3IN for the A3000 Series, and IDEARCIN for the A300/A400/A500 Series. All kits are designed to a high standard and include all the parts you will need.

IDEA3IN upgrade kits include an I²C expansion socket as standard. They come with a 2½" disc already attached, and are easy to fit once you have opened up your computer. You may safely disbelieve rumours spread in the past (by sellers of SCSI hard discs) that internal upgrades might not be safe in an A3000. We have adhered carefully to the guidelines in Acorn's technical specifications, and in three years have never come across a problem.

IDEARCIN upgrade kits provide a fast 16-bit link all the way from the computer to the hard disc. They can even be fitted to an A310 without a backplane – quite a cost saving. A second hard disc can easily be added later if required.

Interfaces and hard discs can also be bought separately. By shopping around you may even save a few pounds. But beware: not all IDE hard discs work with all interfaces, and if you have a problem it may be difficult to decide who should put it right. We recommend buying a complete kit from one source.

WIZZO is the name given to our IDE filing system when it is supplied as a single rom chip. Wizzo5 is for the A5000, and Wizzo4 is for the A4. You should buy a Wizzo if you need password protection or wish to use larger hard discs. (Wizzo4 has been delayed slightly – we are adding a feature to ensure compatibility with possible future A4 upgrades).

A Wizzo rom by itself will only produce a slight speed improvement. If you need speed in an A5000, fit an IDEARCIN interface instead. Up to 60% improvement can then be achieved, but this does depend which hard disc you use so do check with us first.

How to read our ideA product references

A number at the end is the nominal hard disc capacity in megabytes. We usually round this down, so the actual formatted capacity may be higher. All discs have auto-parking. Average access times vary but all are below 20 ms.

All prices shown exclude VAT and are subject to change without notice. The cost to us for hard discs can vary enormously from week to week – not always downwards! Your local dealer can obtain *ideA* products from us or from a distributor.

Archimedes A300/A400/A500 Series Internal Upgrades

Package includes formatted hard disc, ideA interface card, hard disc cradle and fittings, fan kit, replacement multi-purpose LED (power and drive status), manual with fitting instructions. Can be fitted to an A310 without a backplane. If a backplane is *used it must be a 4-layer type. Easily fitted by most users.*

IDEARCIN 40	£175	IDEARCIN 330	£399
IDEARCIN 80	£205	IDEARCIN 420	£499
IDEARCIN 170	£275	IDEARCIN 540	£650
IDEARCIN 240	£325	IDEARCIN 1000	£925

A3000 Series Fully Internal Upgrades

Package includes formatted hard disc mounted on ideA interface card, manual with fitting instructions. Fully internal, using internal expansion slot. Co-exists with floppy drive and memory upgrades. Fits the new 1992 computers. Easily fitted subject to Acorn warranty stipulations.

IDEA3IN 40	£175
IDEA3IN 80	£250
IDEA3IN 120	£299
A3000 FAN KIT (not usually required*)	£19

**Only required if the computer has been fully upgraded, e.g. with maximum memory AND Econet AND an external podule.*

Separates for hard disc upgrades

We can only guarantee the performance of ideA interface cards with hard discs we have tested ourselves, so please check if in doubt. If you are buying a hard disc for an A5000 please say so. If you intend to fit the disc in addition to an existing one we need to know the make and model of the existing disc. Acorn's interface does not support all makes of disc, and some models will work as a second disc but not on their own.

Hard discs on their own are listed as, for example, IDEA 80. An S at the end indicates a 2½" disc.

IDEARCIN (Archimedes Interface for Internal disc(s))	£60
IDEA3IN (A3000 Interface for Internal disc)	£75
ARCHIMEDES INTERNAL CRADLE KIT	£15
ARCHIMEDES A300 / A400 SERIES FAN KIT	£15
4-SLOT 4-LAYER BACKPLANE	£52
POWER CABLE FOR SECOND HARD DISC	£5
A5000 SECOND HARD DISC FITTING KIT	£15

IDEA40	£125	IDEA330	£349
IDEA80	£155	IDEA420	£449
IDEA170	£225	IDEA540	£600
IDEA240	£275	IDEA1000	£875

IDEA40S	£115
IDEA80S	£190
IDEA120S	£239

WIZZO IDE Filing System on rom

Package includes rom, manual and fitting instructions. Compatible with RISC OS 3.0 and 3.1. Allows up to four logical partitions over two physical drives. Each partition appears separately on the icon bar and can have different password protection. Makes use of existing Acorn hardware for maximum compatibility, but works with a wider range of hard discs. Security breaches using ADFS can be prevented. Can be fitted easily by a competent user.

Available now: WIZZO5 for A5000	£39
Available soon: WIZZO4 for A4	POA

Quantity discounts available • Dealer enquiries welcome

WIRRAL, Merseyside, England, L48 5ET

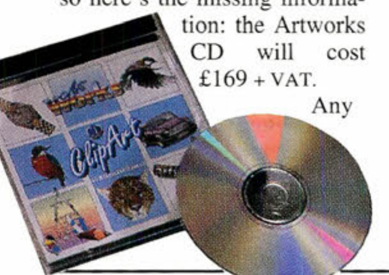
HIGH QUALITY COLOUR

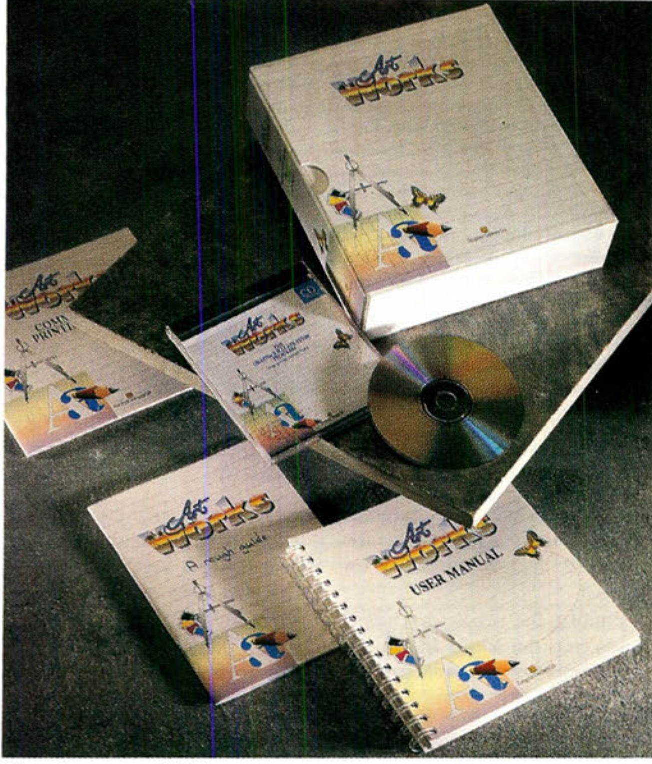
COMPUTER Concepts has announced TurboDriver support for the new Canon BJC600 colour ink-jet printer. The BJC600 is an A4 format development of the larger and much more expensive BJC800 printer, which can accept paper sizes up to A3.

360dpi resolution, 40% more than 300dpi rivals, gives a visually superior print quality, according to CC. Four CMYK inks are used so blacks really are black and the printer is capable of very good grey scales.

The new Canon also boasts faster drying inks than any of its rivals plus lower running costs than other colour ink-jets. CC is supplying the BJC600 with TurboDrivers and a special parallel cable, which should retail at under £500 excluding VAT.

● Last month we brought first details of CC's new range of products to be launched at Acorn World. Prices hadn't been completely settled then, so here's the missing information: the Artworks CD will cost £169 + VAT. Any registered users can upgrade for £29 + VAT.





Artworks: now on CD-Rom

The CD version is 1.5 and the floppy disc upgrade cost £10 + VAT. Version 1.5 supports 24 bits-per-pixel sprites and has an industry standard Tiff file filter as well as colour separation option.

WordWorks costs £39 + VAT. *WordWorks* features hyper-text help and a familiar on-screen look to help people more accustomed to the printed equivalent.

CC's new *AudioPhile* sound editor is £49 + VAT. *Impression Publisher* costs £169 + VAT and the OPI supplement is priced £230 + VAT.

Computer Concepts is on (0442) 63933.

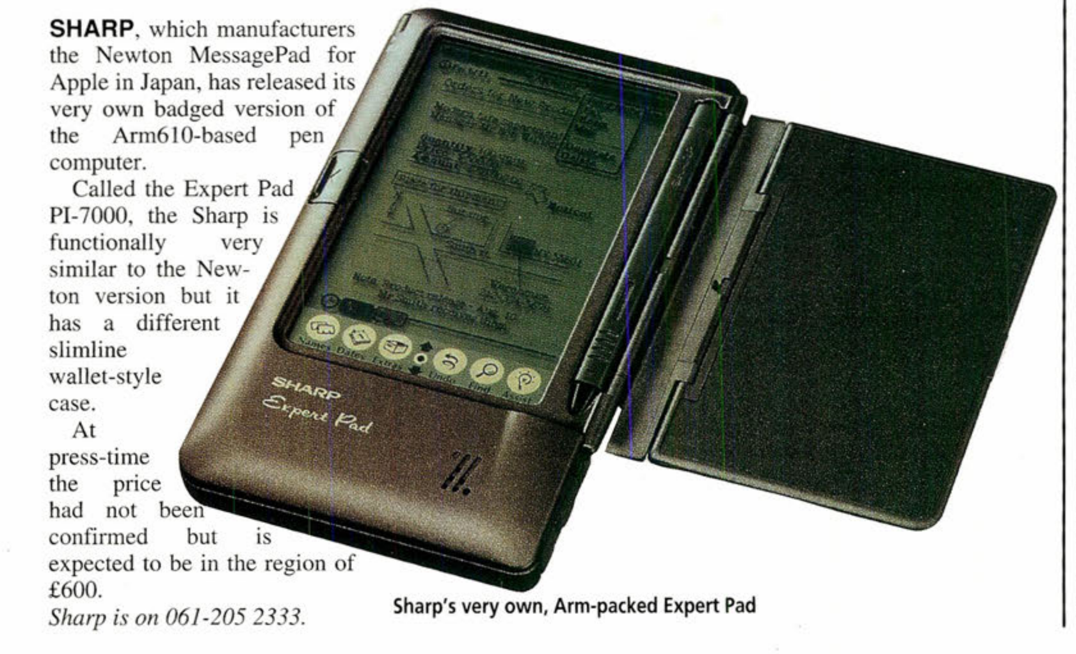
SHARP PDA USES ARM610

SHARP, which manufacturers the Newton MessagePad for Apple in Japan, has released its very own badged version of the Arm610-based pen computer.

Called the Expert Pad PI-7000, the Sharp is functionally very similar to the Newton version but it has a different slimline wallet-style case.

At press-time the price had not been confirmed but is expected to be in the region of £600.

Sharp is on 061-205 2333.



Sharp's very own, Arm-packed Expert Pad

SQUIRREL HEADS NEW TRIO

THREE new products have been unveiled by Digital Services, including a revised version of the popular *Squirrel* database, plus a new ethernet card and a security application called Armlock.

Squirrel 2 has a total of 38 different enhancements including data compression to expand database capacity when storage space is tight, the ability to store *Draw* and sprite images as well as text on the backdrop, spreadsheet format editing, subset updating, and more besides.

A new module also has been developed in order to enhance graphing abilities. Upgrades are available to existing users in two forms; with a revised manual for £35 or £25 without. *Squirrel 2* is priced £139 for a single-user version.

Digital Service's new Ethernet card is designed for the A3000, A4000 and A3020 and has been designed with the company's Netgain network data transfer accelerator system in mind, and this is supplied in Rom on the card itself.

Another feature of the card is that it can effectively password protect the CMOS Ram of the computer it is attached to. The card comes at a cost of £139 + VAT.

Armlock is a stand-alone password security system which also protects the CMOS Ram. Armlock is designed to restrict access selected files and directories to the system supervisor.

When protecting a hard disc there is no need to partition the device, a drawback of alternative security systems, according to Digital Services. A number of permission options are available.

You can also use Armlock to back up protected files and directories using a compression routine. Armlock is priced at £35 for a single user and £135 for a ten-user licence pack.

Digital Services is on (0705) 210600.

A3000 INTO A3020

GREYHOUND Marketing has announced details of three upgrades for the A3000 which will bring the machine's specification up to that of the A3010 and A3020.

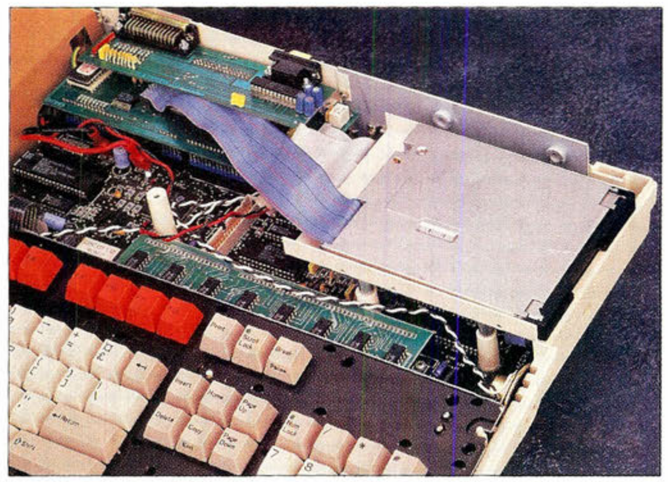
The three units are the Multi I/O Primary board with high density 1.6Mb floppy drive, the Multi I/O Primary board with IDE 85/120 Mb hard disc, and the Secondary board with bi-directional parallel port and second RS232 serial port.

The first unit is potentially the most popular, as it contains a high density 1.6Mb drive, as found in the latest Acorn models. This replaces the existing drive in the A3000, and requires Risc OS 3.10 to work. It costs £199 + VAT.

The second board, the hard drive, can be fitted at any time below the high density drive, and comes with an external power supply. The price for the hard disc is available on request.

Finally, the secondary board plugs into the Multi I/O board and provides total port compatibility with the new machines. Cost is £45 + VAT.

The products are being marketed by Leading Edge, which is on (0532) 374000.



Greyhound's boards bring the A3000 up to scratch

EXTRA KEYS

CASTLE Technology of Suffolk is to announce a range of replacement keyboards for Acorn computers.

Castle's alternative keyboards will have standard PC layout, not Acorn, which should appeal to users of both technologies.

Meanwhile, Liquid Silicon is offering a pair of full-size external keyboard options for Acorn A4 portable users. These are Chicony-brand PC keyboards with a converted cable for Acorn compatibility. The membrane version costs £35.95 while a tactile 'clicky' version is priced £40.95.

Castle Technology is on (0728) 621222; Contact Liquid Silicon on (0592) 260512 for 64-page product catalogue.

PRINTER NEWS

FUJITSU, Star and Panasonic have all announced new printers this month.

Fujitsu has produced a a 1.2kg portable thermal transfer printer called the Joyriter. Laser-quality output at 360dpi is claimed for the Joyriter, which measures just 12 x 1 x 8.5 inches. The recommended price is £319 + VAT. Meanwhile, Panasonic continues to remain faithful to the 24-pin impact dot-matrix printer and has introduced the latest in its QuietPrinter series, the KX-P2023. Supplied with a free sheet feeder until January, the KX-P2023 has a suggested price of £240 + VAT. The new Star SJ-144 is a thermal transfer colour printer which can operate at up to three pages per minute. Star claims the SJ-144 is a better quality alternative to ink-jets. The SJ-144 is priced £569 + VAT.

Star Micronics is on (0494) 471111, Fujitsu: 081-573 4444, Panasonic: (0344) 853915.



Panasonic KX-P2023



Star SJ-144

BUDGET CD-ROMS

BOTH Cumana and Morley Electronics have thrown down the gauntlet in the CD-Rom drive market with new low-price entry-level offerings. Morley's Revolution drive uses a single speed Sony mechanism and interface, all for £299 + VAT. Cumana has opted for a double speed Panasonic mechanism and users of the Cumana EMU interface system need only buy the drive to get started for £299 including VAT. If you don't have an EMU, the Cumana drive and interface is £399 including VAT. Neither drive has a SCSI interface option. Both products will be reviewed in a future issue.

Cumana is on (0483) 503121; Morley Electronics is on 091-257 6355.



Lowering the entry fee to the CD-Rom marketplace

EASY LIFE

RISC Developments has announced a Risc OS desktop-based C language development system called *Easy C* for £49 + VAT. The compiler conforms to the latest Ansi standard and has an integrated Arm-code assembler.

Other new products are a high density floppy interface (so 1.6Mb HD discs can be used on older machines), a tape streamer based on the parallel port, a range of outline fonts supplied on discs containing ten families each at £11.95, and a new Basic Programmer's Toolkit.

There is an updated version of the Wimp Programmer's Toolkit. Risc Developments is on (0727) 840303.

Graphics processing with Wild Vision and Longman Logotron

Save over £60 with our special combined offer of greyscale digitiser, scanner and state of the art paint and image processing



Wild Vision together with Longman Logotron have combined their latest technology to make you an offer that will excite the most discerning artist. Put your artistic dreams into reality with the latest development in scanning and image processing.

ScanLight Video 256 is a combined greyscale video digitiser and scanner for the Archimedes. It is the ideal tool for capturing images from real-life scenes to incorporate into computer graphics work. Using only one expansion slot, it allows connection to either a 400dpi handheld scanner (supplied) or to video from any composite source - such as VCR camcorder or still video camera. A viewfinder application enables a live moving image to be seen on the screen so that you can choose precisely the moment from your video film which you want to capture. Included in the package is all the necessary hardware and software to obtain images originating from 2-D as well as 3-D sources. Yet the entire process is conducted from just one single-width expansion card to save you expansion space as well as pennies.

When combined with the professional quality image processing power of Revelation imagePro, your results will be stunning. Revelation imagePro is a paint and image processing package with a powerful range of functions. It's surprisingly easy to use allowing you to concentrate on creativity. You can combine a number of deceptively simple procedures to create professional quality effects, integrating imported images with drawn elements, patterns and text. The resulting images can be appreciated in their own right, or imported into other applications such as DTP and Multimedia packages.



Revelation image Pro

- Create sprites in 2, 4, 16 0r 256 colour modes (including new standard palette high-resolution modes now supported by third party graphics cards).
- Tools include user defined brushes, sprays, bristle and other painting effects.
- Over 100,000 dithered colours under RISC OS 3.
- Fully editable graduated blends giving antialiased effects, directional graduations and image superimposition.
- Variable sensitivity tracing, blurring, sharpening, dithering and mosaic effects.
- Control over hue, saturation and contrast on whole images, selected colours or selected areas.
- Internal colour processing at 24 bits per pixel (dithered onto standard 8 bit sprite).
- Tint, RGB and CMYK colour modes.

ScanLight Video 256 combined grey scale digitiser and scanner

- A video digitiser and scanner combined on a single-width Archimedes expansion card - uses only one slot!
- 400dpi handheld scanner included
- Grabbing the right video image is easy with the real-time desktop viewfinder; then crop, scale or rotate using ScanLight Plus image manipulation software
- ColourCard compatible - view images live and grabbed in their true 256 - grey palette, for incredible smoothness of shading and photo like clarity
- Choice of grab sizes, 768 x 288 (TV-shaped) or square (up to 512 x 512 resolution)



Longman Logotron
124 Cambridge Science Park
Milton Road
Cambridge CB4 4ZS
Tel: 0223 425558
Fax: 0223 425349



Wild Vision
15 Witney Way, Boldon Business Park,
Boldon Colliery,
Tyne & Wear NE35 9PE
Tel: 091 519 1455
Fax: 091 519 1929

TESCO SCHOOL UPDATE

THIS year's Tesco Computers in Schools promotion, which featured Acorn computers, peripherals and software, has easily beaten the standard set last year when the scheme was first introduced.

Over 11,000 schools benefited from the scheme this year, a 73% jump on last year's total and £6.5 million worth of Acorn and third-party goods were claimed, compared to £3 million last year. This means a third of all schools in the UK managed to claim something from the scheme and Tesco described the response this year as 'phenomenal'.



One of the 7000 Acorn machines claimed through the Tesco promotion

Thousands of spare vouchers were sent to Tesco directly and these were donated to special needs causes. 2600 items were claimed from the special needs computing section. All but one region around the country managed to increase the number of computers successfully claimed compared to last year.

Essex alone boasted 609 computers in all, followed by Sussex (424) and Hertfordshire (390). Overall, 7000 Acorn computers, 17,900 software packages and 5300 peripherals will be distributed to schools during September and October as a result of the Tesco scheme. Even schools aligned with Research Machines are taking on Acorn computers for the first time directly because of the scheme.

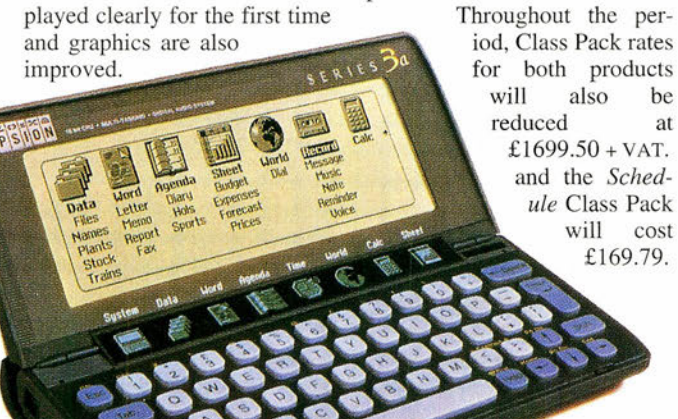
NEW PSION SERIES

THE Series 3a pocket computer has been launched by Psion adding to the original Series 3 range, rather than replacing it. It could form the basis of new versions of the Pocket Book.

New features include a processor twice as fast as before, a quadrupled screen resolution to 480 × 160 dots and maximum internal memory doubled to 512K. An audio recording and playback facility for memo taking has been added too. The new screen means 80 column text on 17 lines can be displayed clearly for the first time and graphics are also improved.

The Series 3a with 256K Ram is £269.95 inc. VAT and the 512K model is £329.95 inc. VAT. Acorn says that no decision to adopt the Series 3a as a new Pocket Book have been taken yet.

Meanwhile, the Acorn Pocket Book has been reduced from £212.72 to £169.95 + VAT for the rest of this year. *Schedule*, which provides a combined diary, personal organiser and timetable will remain at the introductory price of £16.98 + VAT. Throughout the period, Class Pack rates for both products will also be reduced at £1699.50 + VAT. and the *Schedule* Class Pack will cost £169.79.



The new Psion could form the basis of the next Acorn Pocket Book

TWAIN MEETS

SPOTTING a bargain scanner in the pages of a PC magazine and despairing that it can't be used with Archimedes programs could become a thing of the past.

Risc OS applications will soon have a system of acquiring image data from a diverse range of sources using special drivers. This means it should become simpler to match digitisers, scanners and other peripherals to Risc OS applications which source images.

Software author David Pilling is developing an Acorn version of the Twain system used on other platforms like the PC, Mac and Unix. David decided to develop a Twain-based image source manager when he realised how limited the range of Acorn-based flatbed scanners is. Although there are plenty of SCSI-compatible scanners to choose from, most applications only support a limited number.

The Twain image source manager would behave rather like the printer manager in Risc OS.

In brief

4MATION LINKS INTO GERMANY

Software company, 4mation has announced a new link up with a German publisher.

Schneider & Scholz of Illertissen will adapt *Vector, Hatchback* and *Chameleon* for the German market and *Poster, Snippet, Chatter* and *Noot* are next on the list.

4Mation's Neil Souch commented: 'The popularity of Acorn computers in Germany, particularly amongst professional users, continues to increase.

'The expansion into Germany has certainly been helped by the release of a German operating system'.

VIRTUALITY AND ILLUSIONS MERGE

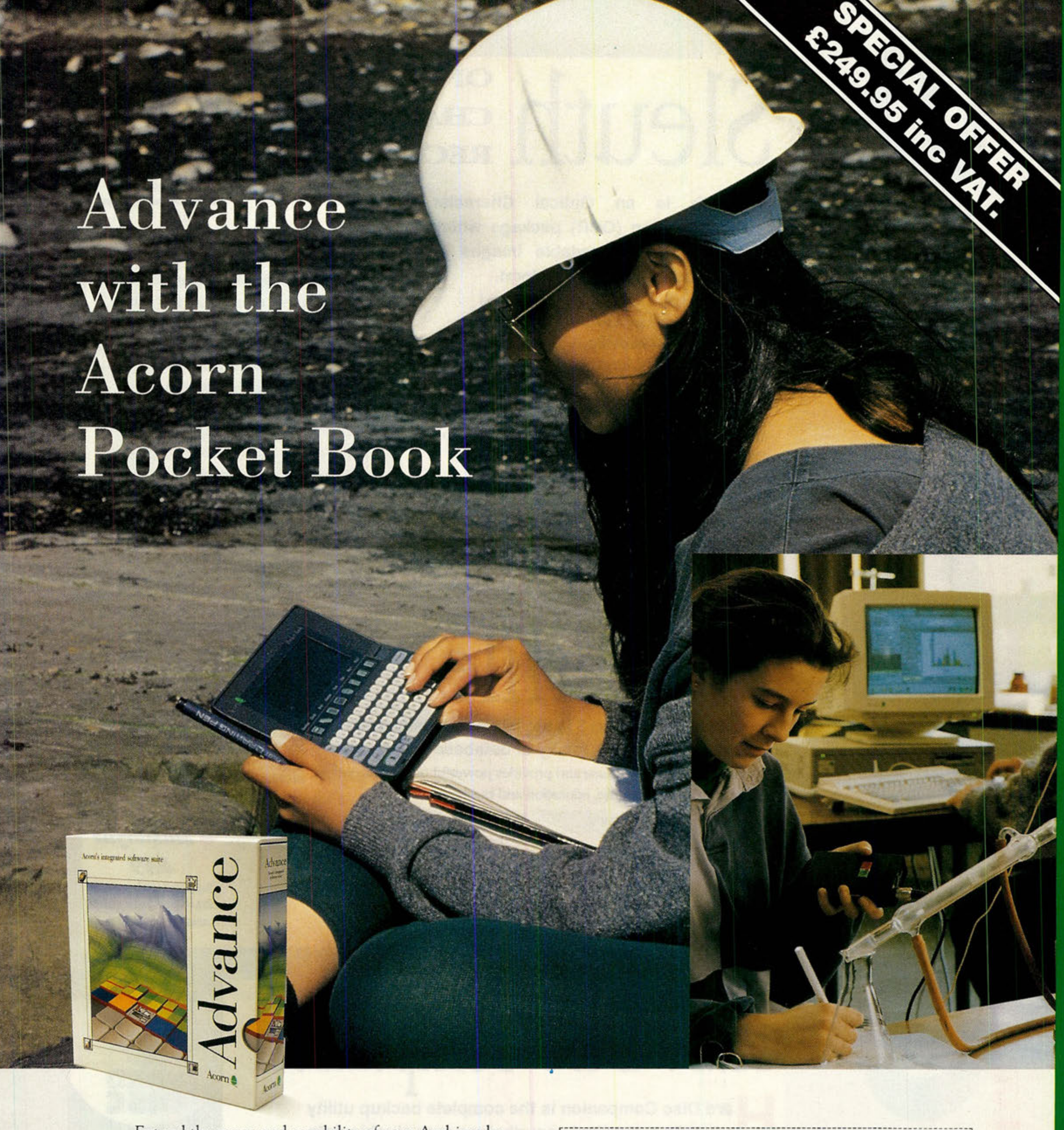
The two disc fanzines, Virtuality and Illusions have merged into one larger magazine. The Illusions title has been retained. Issue 12 contains programming tips, reviews and *Impression* and *Artworks* tutorials. Games and education are also covered and an *Impression II* tutorial disc has also been released. The 10 part tutorial costs £9.95 and 10% of the profits go to charity.

For details write to John Reed,, 42 Wimborne Gardens, Ealing, London, W13 8BZ.

FOCUS IT

A new Acorn third-party company, Focus IT, has been formed by David Atkins, formerly of Oak Solutions. Focus IT's first products will be under the Ecole brand name and include SCSI devices, hard drives, MO drives and CD Rom-drives.Another new product is called Black Box, a low cost sound sampler.

It aims to provide software compatibility with most other sound applications and is priced £29.95 + VAT. For more details, contact Focus IT on (0274) 618774.



Extend the range and capability of your Archimedes computer without stretching your pocket. Save more than £200 on this special offer which includes:

- **Acorn Pocket Book – use it anywhere, anytime**
- **Acorn Schedule – a diary, personal organiser and timetable for the Pocket Book**
- **Acorn A-link and Mains Adaptor – transfers files between Pocket Book and Archimedes systems**
- **Acorn Advance – integrated productivity suite for the Archimedes system**
- **One year hot-line technical support for Pocket Book**

Recommended retail price for all items £468.80 inc VAT

Advance and the A-Link require RISC OS 3 (Version 3.10 or later)

PBAU11/93

Please send the Advance with Pocket Book Offer

☐ I enclose a cheque/PO (made payable to Acorn Direct) for a total of £249.95

☐ Please debit my ACCESS/VISA card

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Expiry date of credit card: ☐☐ ☐☐

Signature...

Name...

Address...

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Postcode...

Return this form to: Acorn Direct
(Advance with Pocket Book Offer)
FREEPOST Wellingborough
Northants NN8 2BR

Acorn

Offer valid for orders received between October 1st and 31st December 1993.
Please allow 28 days for delivery.



Sleuth OPTICAL CHARACTER RECOGNITION

Sleuth is an Optical Character Recognition (OCR) package which converts human readable images of text into machine readable form.

Sleuth processes a scanned image of printed material and converts it into an ASCII file which may be further processed using a text editor or word processor. It is ideal for converting magazine articles, newspaper cuttings, legal documents, program listings, other resource materials etc. etc.

Sleuth version 1.0 is a low-cost entry package into OCR and produces excellent results on a range of typefaces. It is the first in a planned family of products which will take OCR on Acorn machines to full professional level. Any future OCR products will be available as upgrades to existing users.

NEW

- Fully RISC OS compliant and multitasking
- Sleuth recognises most PostScript fonts and other similar fonts (not bold or italic)
- With good quality 400 dpi images, Sleuth can achieve over 97% accuracy
- Converts text at speeds of 80-250 wpm
- User definable 'zone' used to choose which rectangle on the image to convert
- Handles sizes 9-24pt (you will need a 400 dpi scanner for good results below 12pt)

To use Sleuth you will require a scanner with a minimum resolution of 200 dpi. For best results you will need a 300 or 400 dpi scanner.

● ***Sleuth £49***

Masterfile



Masterfile version 3 is the latest development in this best selling family of database programs.

Masterfile is fast, easy-to-use and provides powerful data management facilities suitable for home, education and business use.

- Fast, multi-field indexing
- Multiple subsets
- Password protection
- Global calculations
- Multi-line fields
- Database restructure
- Calculation fields
- Import text and pictures
- Export CSV, TSV, ASCII
- Card designer
- Report generator
- Toolbox

● ***Masterfile £49***

Supplied with sample databases, user guide, and reference card.

Hard Disc Companion



Hard Disc Companion is the complete backup utility providing excellent security for your valuable data.

Hard Disc Companion provides a structured approach to the backing up of hard drives to floppy discs, and the recovery of files after disc failure or accidental file deletion. Both Full and Incremental backups are supported, and the files to be backed up or ignored may be specified using simple drag operations.The entire backup specification may be saved in a script file for use at a later date. An efficient compression system backs up data quickly and efficiently.

'...it is certainly the best hard disc backup utility that I have ever used.' ARCHIVE Apr 92

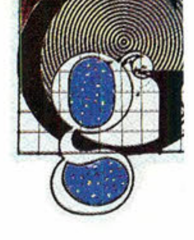
● ***Hard Disc Companion £45***



RISC Developments Limited

117 Hatfield Road, St. Albans, Herts AL1 4JS Tel. (0727) 840303 Fax. (0727) 860263

Please add £1.70 carriage and VAT to prices. Please phone for site licence & educational prices.



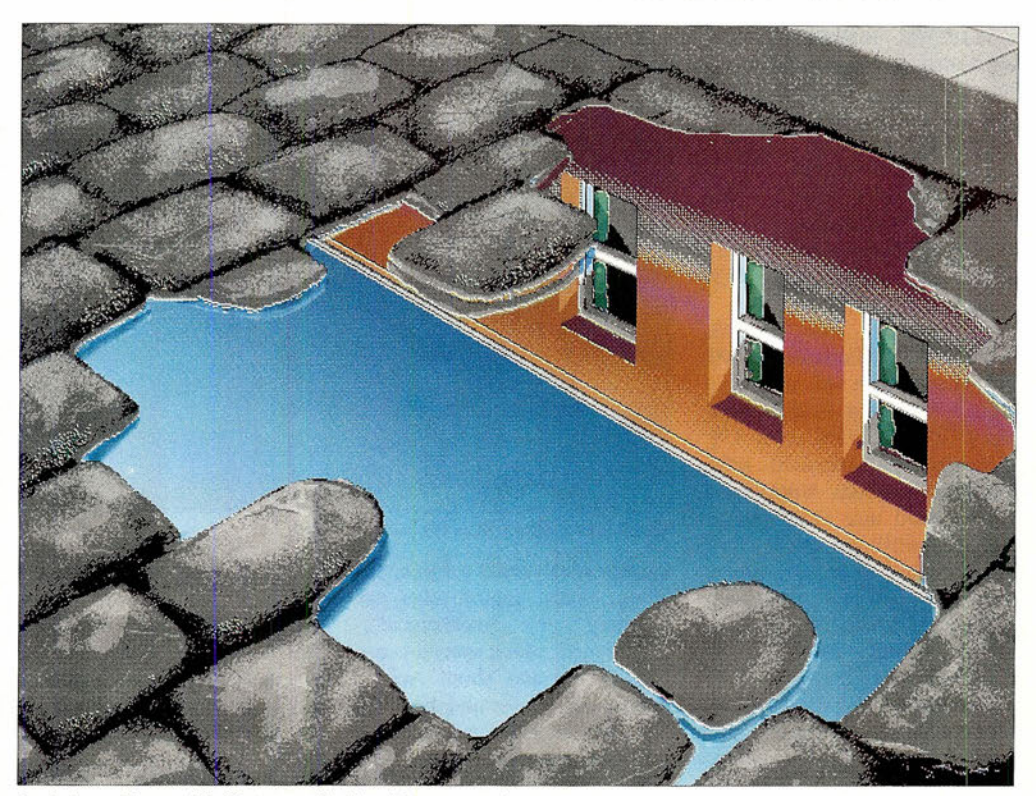
PRO ARTISAN 2 HITS THE STREETS

CLARES' long-awaited Art package, *ProArtisan 2*, has finally been unleashed. A long list of special effects, never before implemented in painting software on the Arc, have been included in this sophisticated yet easy-to-use program.

It is the first pixel-based art package to be fully compatible with State Machine or Computer Concepts graphics cards. Because its palette is stored with 24-bit colour values this means that although the program uses only 256 colours, it provides on-screen viewing of any colours from 16.7million available. Stunning true-greyscale images can be manipulated as never before.

All images are stored as high res sprites and retain all colour and bitmap information during any changes to smaller screen modes as is beneficial when printing, for faster throughput.

For the lowdown on this powerful new sprite editor turn to the full review on page 92.



ProArtisan: It's good. In fact, on reflection, it's very good

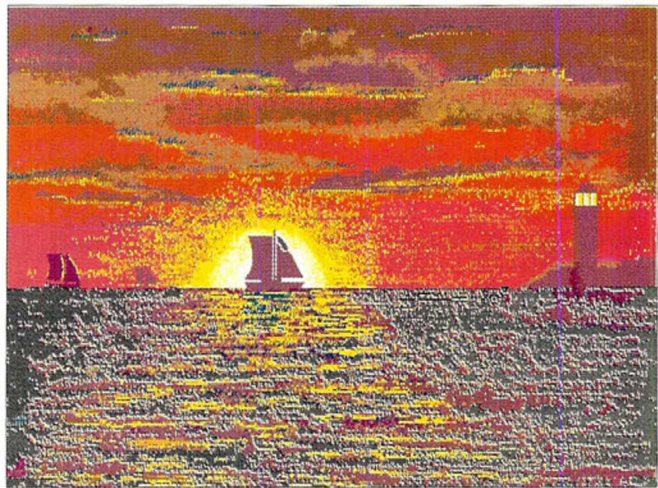
READER PICTURE

THIS month's successful Reader Picture entry was sent in by the Information Technology lecturer at Dartmoor Prison.

The work was submitted on behalf of one of the many inmates benefiting greatly from the use of Acorn equipment during IT classes there.

The warming seascape was sent with other commendable pieces, which were all produced using *Paint* alone. It's quite refreshing to see some genuinely good-quality artwork created with the simplest painting package of them all.

Don't forget to send any details of how you produced your entries and keep them coming in.



Red (and grey) sails in the sunset

KINGFISHER

WINNER of the Computer Concepts' Battle-for-the-Bubblejet clip art competition, WJ Briggs of County Down, has expanded his professional illustration services to offer software companies his expertise and skills.

Having been a graphic designer, illustrator and airbrush artist for over twenty years, Mr Briggs has watched with enthusiasm Acorn's progress in the area of vector graphics, to its present lead in the personal computer world with packages like *ArtWorks*. This has enabled Mr Briggs to now specialise in this medium utilising Acorn hardware.

Kingfisher Graphics (after the prize-winning bird, I guess) can be contacted on (0274) 888698.

NATIONAL DESIGN

A final year university design student, Anil Patel, has won a Welsh Development Agency's annual award in this year's Environment category.

The project, entitled *An Interactive Approach to Landscape Design* was designed, documented programmed and compiled entirely on the Arc platform, using an A420, Acorn's Desktop C Development package, *Impression II*, *Artworks* and an HP 500 colour inkjet.

The project's applications include a 3D landscape generator from 2D maps, aimed at investigating the design issues and techniques involved in anything from garden landscaping to opencast mining. In a world of PC-, Mac- and Sun-filled universities, an Arc comes out on top.

You can contact me by writing to Jack Kreindler, Graphics Page, Acorn User, 101 Bayham Street, London NW1 0AG.

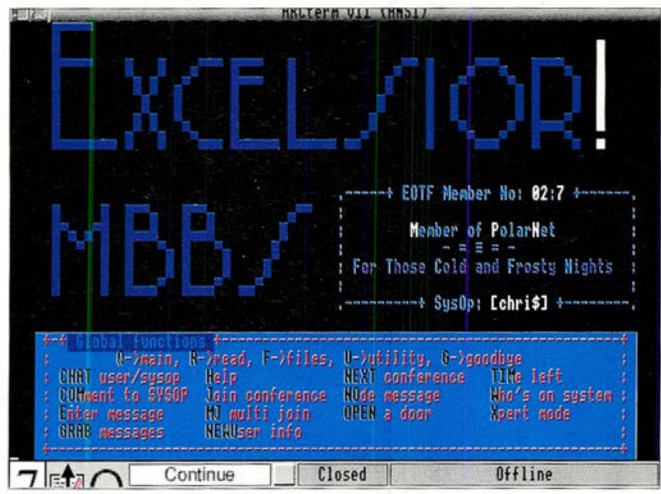


NORSES FOR COURSES

BULLETIN Boards catering for Acorn machines have been springing up all over the place recently, not just in the UK.

Excelsior! (M)BBS is a Norwegian BBS run by Chris Calvert on a PC system. The BBS can interact with you in English or Norwegian, or both. The Acorn section of the BBS is managed by Knut Folmo.

The system runs MBBS software on a Micronet 486DX PC with 16Mb of memory, with 210Mb and 119Mb hard discs. The modem is a US Robotics Dual Standard, providing for speeds from 300-14400 baud and HST mode. The Acorn file section contains a good selection of well over a hundred files and programs, some of which will be familiar to Acorn BBS users, others will be less well known.



First it was football. Now it's bulletin boards

Although many of the message conferences are conducted mainly in Norwegian, English users are welcome to contribute. The message areas include such varied subjects as 'Cars, boats, motorcycles or anything else mechanical', Midi Music, and a special conference for and about Acorn computers, moderated by Tor Houghton, a name well-known to many Acorn users.

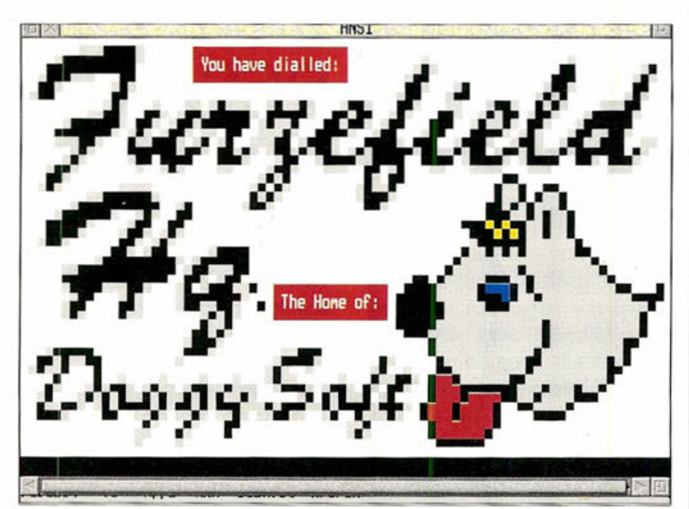
The BBS name derives from a poem by Henry Wadsworth Longfellow, about an Alpine traveller who ignores good advice to wait for a storm to pass and falls victim to an avalanche. The moral here is to stay in and look around Excelsior on those cold and frosty nights.

Excelsior! (M)BBS is on [010] (47) 66 846379 8N1.

JAMES PONDER TOO

FURZEFIELD Hq is a new bulletin board run from Beaconsfield by James Ponder. The scrolling BBS is online 24 hours, and provides latest and current versions of the PD and commercial software from a group of young programmers calling themselves collectively DoggySoft. James, well known to the Acorn BBS world as 'Jp', intends that Furzefield Hq BBS will also offer all the Acorn and Archimedes interest message echoes as well as a comprehensive file base. All speeds to V32bis 8N1 are supported.

Furzefield Hq is on (0494) 681711.



The Furzefield BBS gives access to the latest DoggySoft software

PALMTOP COMMS

THE new Psion Series 3a organiser and the release of the long-awaited Apple Newton MessagePad are making handheld comms a reality.

The Psion is a much-improved version of the Series 3/Acorn PocketBook in the same case but with a larger true 80 x 25 character screen. The machine comes with 256K or 515K of memory at £269 and £329 respectively. Psion is on (071) 262 5580.

The Newton lets you write messages, draw pictures and edit documents on its touch-sensitive screen. The serial port is its main communication link, and it comes with an optional FAX/data modem. Data can be transferred to and from PC or Mac via its serial port. Newton base version £510.64 + VAT (with FAX/data modem £638.51 + VAT) from The Serial Port on (0749) 670058.

In brief

Tower of Power

THE Canzona is an unusual tower design modem from Sonix Communications. Covering all speeds from 300bps to 14400 bps with V42 and MNP error correction, and V42bis and MNP5 compression, the Canzona also supports Class I fax operation at 9600 and 14400bps.

The unusual small-footprint design and the complete package which includes all hardware, software (both data and fax) and cables add up to a premium price (these days) of £595 + VAT. A V32 Terbo version with flash memory is also available called the Volante at £795 + VAT. Sonix Communications is on (0285) 641651.

Terbo charge

US Robotics has announced, and is expected to begin offering, upgraded performance features to the Courier range of modems.

From October this year, latest models will also support Class II fax operation, and be able to connect to other makes of modem also using the interim high speed standard, the 19,200baud V32 Terbo as well as US Robotics own even-faster proprietary version of V32 Terbo.

An upgrade for existing (small footprint) Courier modems is expected to cost between £99 and £199, depending on when originally purchased. The upgrade board will enable further enhancement to V.Fast by plug-in chip which will be available next spring when the standard is ratified.

US Robotics products are also available on a sysop discount scheme from Hawkastle Ltd, in Staines, Middlesex on (0784) 449991.

YOU can contact me by writing to: David Dade, BBC Acorn User, 101 Bayham Street, London NW1 0AG or Email to: DaviD@arcade.demon.co.uk, or modem on Arcade BBS, User #2 - 081 654 2212 or 081 655 4412.

NOW 250 FONTS FOR ONLY £30

Supplied with Bold & Italic styles, comes on 20 discs

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Acorn	MegaType	Park Avenue	Jotter	Jayne
STENCIL	Schwarz	Brush Script	Ladybird	George
SPLODGE	THEATRE	Friendly	Milton Keynes	Columbia
TECH	Cooper Black	Chicken	Lazy	ALGERIAN
BALLOON	Gangster Bit	Classic	Koch	Dubiel
Raven	Buckingham	Bolt	Swizz	SOLID
STOP	Palatino	Citric	Trio	Σψμβολ
Cybernoid	Oxford	Orange	Baskerville	
Hardcase	Old English	Amber	Itali	
YOUNG	Reiner	Garden	Select	

Fonts Pack 2

POST CRYPT	TERMINATOR	Andromeda	Informal	BUBBLE
Цириллиц	STRONGMAN	Architect	El Garrett	China Town
Cuneif	Gordon	Chasline	Alison	Borzoi
CAVEMAN	ESPHERES	Chinese	Square	TOY
DEUSEX	METRO LINER	Charlie	EDDA	Kathlita
Future	SNYDER	Canaith	Black	Jumbalaja
LED Style	Fox Script	Heidelberg	Caligula	Windsor
PONCHO	FLINTSTONE	Thalia	Jackson	Video
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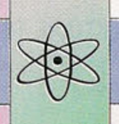
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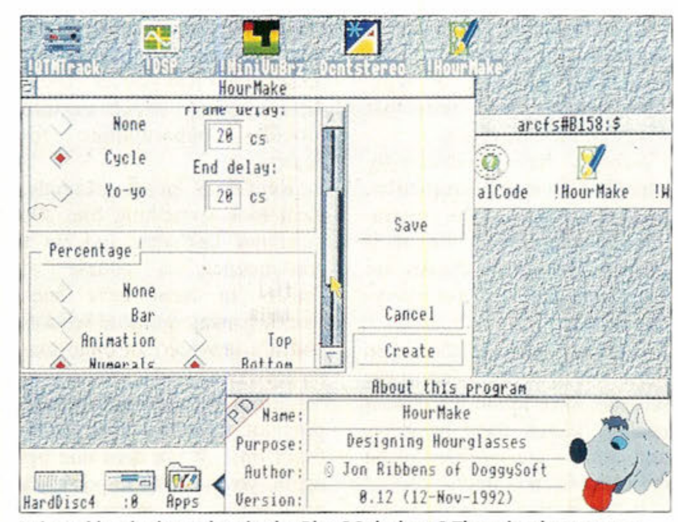
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TIME FOR A CHANGE OF GLASS

THIS utility provides a simple way of changing the poorly-designed hourglass icon, used by Risc OS while the computer is occupied. *Hourmake* uses one window for the creation of a new hourglass, with options for the type of animation and whether LEDs or percentage displays are used.

You design a set of sprites, one for each frame of animation, then drag them to the *Hourmake* window. A quick click on Create produces a save box. Output is as a relocatable module, which redesigns the hourglass on initiation. *Hourmake* is available from APDL, disk code B158.

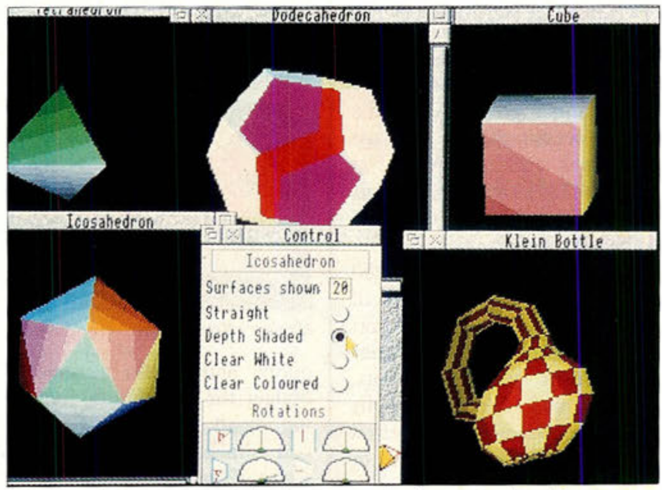


Irritated by the hourglass in the Risc OS desktop? There is a better way

AROUND THE SCENE

WE kick off this month's scene news, with details of some amazing vector graphics from coder John Hedley. Not only is the mini vector demo John has produced fast, it runs from the desktop in a window.

Under Arm2 a reasonable frame rate is achieved, but with Arm3, it seems to be about fifty frames a second. Several differently-filled vector objects can be selected, and fill options, such as depth shading and transparent vectors are available. The idea is to display 4D solids on a 2D screen, but whatever the mathematic details are, it certainly looks pretty smart anyway. 4D solids is available from APDL, disc code B173.



OK. Magazine pages aren't the best venue for demonstrating 4D

FOG ON THE ARC

ANOTHER mini-demo hits these pages: *FogDemo* from Arm's Tech. French coder Armoric, an expert at coding plasma and liquid fx, has used some of his old routines to create a completely new and original production. I won't spoil this one with any more details, but would recommend its purchase, as soon as it hits the PD libraries.

PIXELPAL

PIXELPAL is a handy utility authors of software on the Arc should find invaluable. The limited 16-colour desktop palette must be used for application icons, but limits the aesthetic qualities available to the designer.

PixelPal helps an artist round this. By mixing all 16 colours, 128 sub-shades are produced. *PixelPal* displays these different shades and, when one is selected, it will show the two-colour combinations. Some shades are unusable, but most look impressive

PixelPal and many other PD utilities are available from Chris Beech PD, 30 The Deerings, Harpenden, Herts. AL5 2PE. Chris runs an alternative PD library, and prefers to swap his software for new PD.

CODERS

MANAGER of the prolific Arch Angels group, Fred Schaerlig, is organising a large-scale programming project on the Arc. Fred is looking to recruit coders from the PD scene, to contribute to his Wings Project. I can't reveal details, but anyone interested can contact either myself at Acorn User, or Fred at 26 rue Cesar Roux, CH-1005 Lausanne, Switzerland.

In brief

Equinox

Equinox PDS will no longer supply commercial software, only distributing PD to existing customers. Orders and cheques should be made payable to G Scott. Partner Geoff Scott says: 'This is not the last the Acorn market will hear from us!'

PD Updates

Updates to several popular utilities are now available, including *StrongEd2* (v2.54), *DirMenu* (v2.22) and *MakeBoot* (v1.13). All are obtainable from Hensa over the Internet. A full index, and monthly updates is on email at hensa@uk.ac.hensa.micros.

Correction

In the September issue, the PD libraries and disk codes of the programs reviewed were lost. These are as follows: FYEO and Kysmet from the Datafile on disk Utils 94, and Lunchtime 4 (Yul Brynner's Memorial Toolshed) is from the Datafile. Demos are stocked by Arch Angel PD library and Datafile.

In to lunch

The team which produced Lunchtime magazine is refining the editor they used to produce Lunchtime 4. This will be their next PD release. According to Andy: 'Hopefully it will encourage mags from people put off by the programming.'

Q The Music

A new music player and tracker editor, completely PD, is to hit the scene. All tracker effects are supported, and if anyone finds a module which doesn't play correctly on Q The Music, Phoenix, the author, will do his best to correct the player. The editor, based around the popular *Protracker* on the Amiga, won't be ready for several months, but the QTM player should be released soon. Releases will be from Datafile.

Paul Wheatley (Cobra)



TESCO DELIVERS ACORNS

SCHOOLS up and down the country are currently taking delivery of the equipment they earned by assiduously collecting Tesco vouchers in the Computers in Schools promotion.

The statistics are as follows. Over 11,000 schools claimed more than 30,000 pieces of equipment, worth £6.5 million. This breaks down to 7000 computers, 17,900 software packages and 5300 other hardware items. Around 2600 items were ordered from the special needs computing section of the catalogue.

Essex came top of the league table with 609 computers, followed by Sussex with 424 and then Hertfordshire with 390. Herefordshire went from zero last year to 32 machines this year – presumably a couple of Tesco superstores have opened on the Welsh borders in the last 12 months.

Peter Talbot, education marketing manager at Acorn, describes the scheme as 'an unqualified success' and says. 'What's nice about it is that it's good for everybody.'

Schools have undoubtedly benefited from the promotion. Staff at Acorn must be congratulating themselves on their success and Tesco bosses are surely smiling, but not everyone is happy.

Software companies, even those which participated in the scheme, have found it has seriously affected their business, and dealers are reported to be suffering even more.

In short, the anectdotal evidence is that nobody is buying IT equipment – they don't need to because they're getting it for free – and in the long term this could have a serious effect on suppliers, and thus consumers, in education.

When questioned about this, Peter Talbot said: 'One of the things we saw from last year's campaign is that there was a large number of take-ups in areas that had never taken Acorn before, which in turn provides opportunities for dealers.

'Kent's a good example. Kent took something like 200 machines last year and, as a consequence, a couple of dealers in Kent have been working away on those schools and it's provided an opportunity for sales.

'From the software houses' point of view it's been a difficult time. It's a hard one but again, you see, the opportunity now exists, the machines are there. Schools are going to need software, increasing the demand in a very big way.'

However, Talbot is unforthcoming about whether the scheme will run for the third time next year. 'Who knows... the discussions are to take place,' is the only comment he will make.

MICROS FOR SPECIAL NEEDS



Special needs software in the classroom

THE annual Micros for Special Needs exhibition is to take place from 6 to 8 October at the Queen Elizabeth Hall in Oldham's Civic Centre.

Sponsored by Acorn, the show features stands from a range of companies producing equipment for special needs education, including hardware, software and alternative input devices. The National Council for Educational Technology is running a stimulating seminar programme.

Micros for Special Needs is organised by Northwest SEMERC, which has recently moved and can now be found at 1 Broadbent Road, Watersheddings, Oldham OL1 4HU.

BEAR CHEEK

EDUCATIONAL Resources In Computing, which goes by the acronym Eric and has a cuddly teddy bear of the same name as its logo, has released a wordprocessing/DTP package for young children. Aimed at five to 13 years, *BearWords* has three levels and is designed to be easy to use.

The program is frame-based and comes with a number of page layouts. You can import sprites, draw files and scans and use a variety of fonts, colours and borders. Pupils with special needs can access it via a Concept Keyboard or touchscreen. It comes with a jargon-free manual, takes up just 1Mb of memory and costs £42.95.

Eric can be found on (0903) 872400.

CHEAP CD-ROM

THERE has been a burst of activity in the Archimedes CD-Rom drive market with the launch of machines from Cumana and Morley.

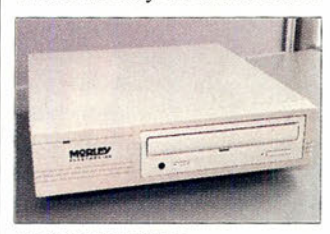
The Cumana 300 series is



The Cumana 300

multisession-compatible and operates in double speed mode at 300K/s. It offers a high speed access time of 320 milliseconds (random access) and its 64K buffer enhances the quality of graphics and Replay full screen motion video.

Morley's Revolution, developed with Sony UK, is also multisession-capable and Replay and Kodak PhotoCD-compatible. The Morley remit was to design a system which would be easy for teachers and



Morley's Revolution

pupils and within a sensible budget for all schools, including small primaries. Cumana had similar aims, hoping to make CD-Rom accessible to everyone by keeping the cost down. Both drives retail at £299, the difference is that the Cumana price includes VAT and £300 of software vouchers but you do pay £100 extra for a card. The Morley model does not need an expansion card.

Cumana is on (0483) 503121. Morley Electronics is on 091-257 6355.

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THE ACORN USER

With this month's disc you can learn to use ProArtisan 2, have a wrestling match

PROARTISAN 2

ProArtisan 2 is the most important graphics release of the year. See for youself why this is with our exclusive fully-functional demo on the cover disc

ProArtisan 2 is the latest incarnation of Clares' popular art package, and we've got an exclusive demo for you on this month's cover disc. Not only is the demo completely functional (apart from saving and printing), but Clares has provided full instructions and files for you to create the picture on the opposite page.

A short tutorial

To get you into *ProArtisan 2* as quickly as possible the following tutorial takes you through manipulating an image to introduce some of the tools.

Instructions to use a particular menu item are written as Paint -> Fill -> Plain where Paint is the name of the icon in the Tool pane, Fill is the item in the Paint menu and Plain is the item in the Fill submenu.

If possible use a multisync monitor in Mode 28; if not, use Mode 15 instead.

1 Load *ProArtisan 2* and click on the icon. Create a canvas size 400 pixels by 400 pixels.

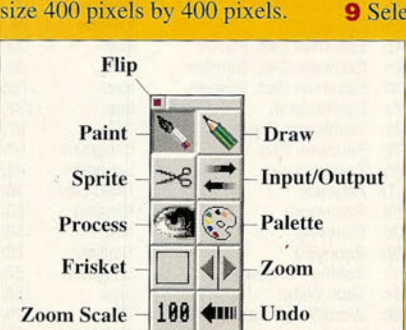


Diagram 1: The Tool pane

2 Click on the Draw icon and press Menu with the pointer on the canvas. Click on the Grid item to turn the grid on. Set the grid size to 48 units in the Grid submenu.

3 Click on the Sprite icon, which brings up the Sprite pool window. Drop the file called Cheetah onto the Sprite pool window to load it into the pool.

4 Click on the Vertical Sprite Flip icon (up-down arrow) to flip the cheetah vertically.

5 Click on Sprite -> Sphere and drag out a sphere with a radius of two grid units in the lower half of the screen. Drag out the sphere horizontally to lock to the horizontal grid lines. Dragging diagonally locks to diagonal grid points.

6 Darken the image using 40% Process -> Filters -> Darken.

7 Click on Sprite -> Vertical Sprite Flip icon to flip the cheetah vertically.

8 Add another sphere the same size but overlapping by one unit as shown in Diagram 2.

9 Select white from the Palette and set the Opacity slider to 20%. Goto Paint -> Brush Shape and select a medium brush size. Using Paint -> Paint lighten the area indicated on the top left of the top sphere.

10 Change the colour to black and using 20% Opacity again, darken the area indicated.

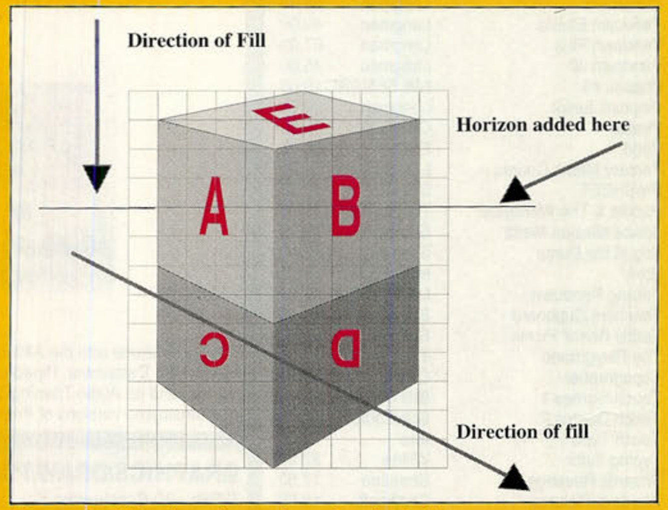


Diagram 3: Filling the cubes and creating the horizon

11 Set Opacity on the Palette to 100% and choose a blue on the edge of the palette. Using Paint -> Fill -> Plain fill the background. Use Paint -> Paint with a small brush if the fill does not get all areas, particularly any overlap that you got when doing stages 9 and 10.

12 Set Sprite -> Transparent to the same blue from stage 11.

13 Using Sprite -> Cut -> Rectangular cut out the two spheres in one sprite. Grid lock should still be active enabling you to cut right at the edges of the spheres.

14 The sprite will appear in the Sprite pool. Give it a name, 'Spheres'.

15 We are now going to create a cube. Select white from the Palette and click on Process -> Clear Screen to clear the screen to white.

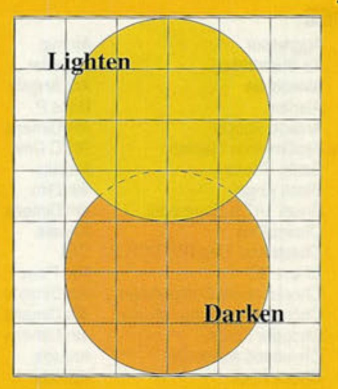


Diagram 2: The two circles

16 Ensure that you have the Cheetah sprite selected.

17 Using Sprite -> Distort drag out a distort box 4 by 4 units (start from 3 squares in and 3 down – ignore the half square at the top) and using Adjust drag the control points to provide the shape of the area

COVER DISC

with a greasy pig or brush up on your irregular verbs in ✱Info

marked A in Diagram 3. When you click Select the Cheetah is plotted into the area.

18 Do the same for the areas marked B and E.

19 Click on the Vertical Sprite Flip icon to flip the cheetah vertically and then use Sprite -> Distort to do areas C and D.

20 Set Draw -> Style to do filled areas.

21 Toggle the Frisket icon to Create Frisket – a solid square.

22 If a Frisket is set (shown as areas of red) do a Process -> Clear Screen to remove it. You must do this anyway when doing steps 30 to 32.

23 Select Draw -> Line.

24 Bring up the Palette and click the red colour; there will only be red or white cross hatch to choose from. If the choice is black or cross hatch, the colour can be changed to red in the Process menu with the Frisket Colour option.

25 Now draw around area D by clicking at the four corner points. Grid lock should still be on. The area should turn red indicating a Frisket.

26 Click on Process -> Invert Frisket and now the only area visible should be area D. This is the area that will be affected by the next process.

27 Toggle the Frisket icon to Frisket Active – diagonal lines.

28 Apply Process -> Filters -> Darken with a value of 50%.

29 Repeat steps 22 to 29 but on area C instead of D and use a value of 35% instead of 50%.

30 Repeat steps 22 to 29 but on area B instead of D and use a value of 25% instead of 50%.

31 Repeat steps 22 to 29 but on area E instead of area D. This time you need to do a Process -> Lighten with a value of 25%.

32 Toggle the Frisket icon to Frisket Inactive.

33 Set the line thickness in Draw -> Style to about 10 and the style to outline only. Using Draw -> Line draw a horizon line in a blue (drag out the line and use Adjust to finish the line) from the edges of the cube to the edge of your window, as shown in Diagram 3.

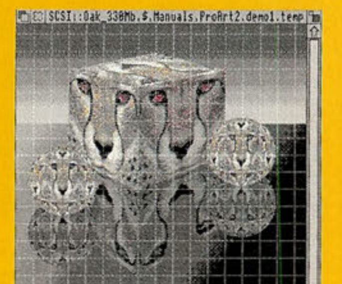
34 Use Paint -> Fill -> Plain with the same colour as the line and fill above the horizon.

35 Turn the grid off by pressing CTRL-G on the keyboard.

36 Select Paint -> Fill -> Angled and also tick the Dither option in the Fill menu. Now select Paint -> Blends 4.

37 Fill the area at the top by dragging the fill arrow from just below the top of the canvas to the horizon line.

38 Select Paint -> Blends 3 and click on the Blends flip icon so that the Blend runs light to dark. Drag the fill arrow from the left of the cube to the bottom right of the canvas as shown.



The finished picture

39 Ensure that Spheres is the current sprite in the pool.

40 Click on the sprite in the pool and place the spheres on the bottom half of the canvas. That's it: hopefully it should look like the above.

OMNIDESK

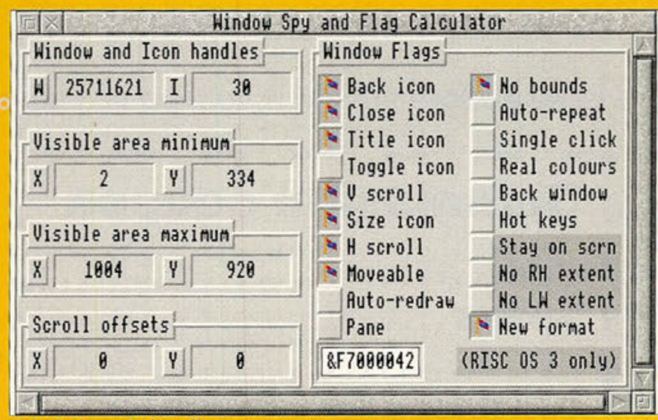
The ultimate desktop utility

Welcome to *OmniDesk*, the most flexible desktop toolkit ever. This month we've got two utilities which will prove invaluable to budding Wimp programmers.

If you've ever tried programming the Wimp, you'll know that working out flag values for windows and icons is a complete nightmare, unless you're one of those people who can convert 32-bit numbers from binary to hexadecimal in your head. For all you mortals, however, *OmniDesk* now provides the answer to your problem: the *Window Flag* and *Icon Flag* utilities.

The Icon Flag window

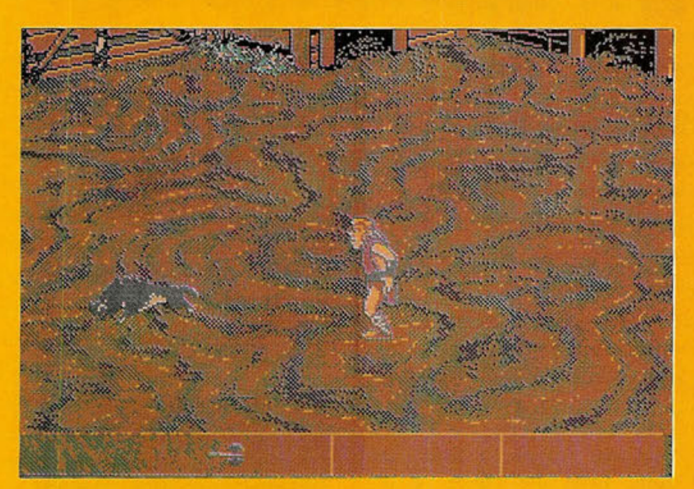
The *Icon Flag* window shows detailed information about the icon under the pointer, from its handle to its flags to its button type. And not only can you spy on the flag values for icons on the desktop, but you can enter your own settings for colour, ESG etc and *OmniDesk* will tell you the value of the flag word you need.



Calculating window flags

The *Window Flag* window is similar, except – surprise, surprise – it displays information about the window under the pointer. All the details are shown, and, of course, you can set the flags to your own specification.

HEIMDALL



At last, Krisalis' role-playing arcade adventure is being released, and we've got one of the subgames on the cover disc

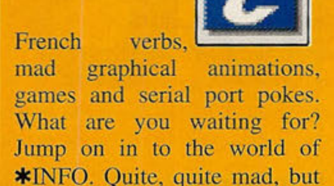
The subgame is called 'Slippery Pig', and the idea is to run around the arena, lunging at the pig, trying to catch it. Easier than it sounds, this is the sort of thing the Saxons used to do a lot. And the Vikings. Apparently.

Try the following keys. Good luck...

Z	Left	L	Down
X	Right	P	Up
Space	Dive		



*INFO



French verbs, mad graphical animations, games and serial port pokes. What are you waiting for? Jump on in to the world of *INFO. Quite, quite mad, but a barrel of laughs. See p113.

BASICS



Learn to program in Basic the easy way: with our Back to Basics course. This month we tackle the thorny subject of control statements, starting with IF-THEN constructs. See p109.

Problems?

Cover discs are thoroughly tested at each stage of production, but with such a large batch it is possible that one or two faulty discs may slip through. If you should receive a faulty disc it will be replaced free of charge. Send it with your name and address to:
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FOR THE ARCHIMEDES



HATS OFF TO COLOURCARD



A new graphics accelerator card for the Archimedes, the ColourCard brings a host of improvements to the video capabilities of any Archimedes A300*, 400*, 540 or 5000 series computer.

The simple to fit, single width expansion card is completely compatible with all RISC OS desktop software, but brings much higher screen resolutions at higher screen refresh rates (less flicker and easier on the eye).

In 16 and 256 colour screen modes all the colours are selectable from 16 million hues. This means scanned pictures can be seen with 256 true grey-levels on screen and that you are no longer restricted to the preset Acorn palette. Some applications, such as ArtWorks, can provide better screen colouring using the new palettes.

In addition, the ColourCard offers 15 bit-per-pixel true colour screen modes having over 32,000 colours on screen at once. Although these screen modes are not yet desktop software compatible, it is expected that programs will become available that take advantage of the modes. The ColourCard is supplied with a 24-bit preview utility to show 24-bit Clear files in stunning full colour.

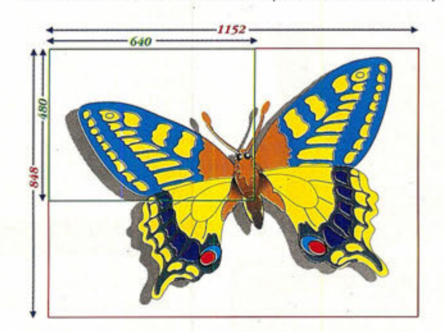
The ColourCard reduces the load on the main Archimedes memory and so allows the ARM processor to run much faster than would normally be possible in high resolution screen modes. Depending on machine and screen mode, graphic operations can be up to twice as fast.

The ColourCard revolutionises DTP and graphics work, and opens up the world of true-colour graphics to the Archimedes user for the first time.

The ColourCard has been developed and is backed by the largest and most successful Archimedes developer. It is available now, and for added peace of mind comes with a 14-day, no quibble money back guarantee.

SOME OF THE SUPPORTED SCREEN RESOLUTIONS

Colours	Resolution	Refresh
16 colours	1600 x 600	65Hz
	1024 x 768	72Hz
	1152 x 848	64Hz†
	1280 x 512	80Hz
256 colours	800 x 600	85Hz
	1152 x 424	80Hz
32,000 colours	800 x 300	80Hz
	576 x 424	90Hz



ColourCard offers 3 times the pixel area of standard Acorn VGA mode 27.

KEY COLOURCARD FEATURES:

- ArtWorks version1.1 now supports 32,000 ColourCard screen modes
- Video pass through for guaranteed compatibility with all software without having to unplug your monitor
- 15 bpp (ie 32,000 colour) screen modes
- No quibble money back guarantee
- A3000 version now available
- New configurable screen update speed

*(The ColourCard is compatible with all multi-scanning monitors. †Only higher scanning rate monitors can manage 1152 x 848 resolution. Lower scanning rate monitors may display some resolutions at lower refresh rates. *A300 and early A400 computers may need an additional Genlock connector to be fitted internally.)*

Price £249.00 +£6 p&p + vat (£299.62 inc)
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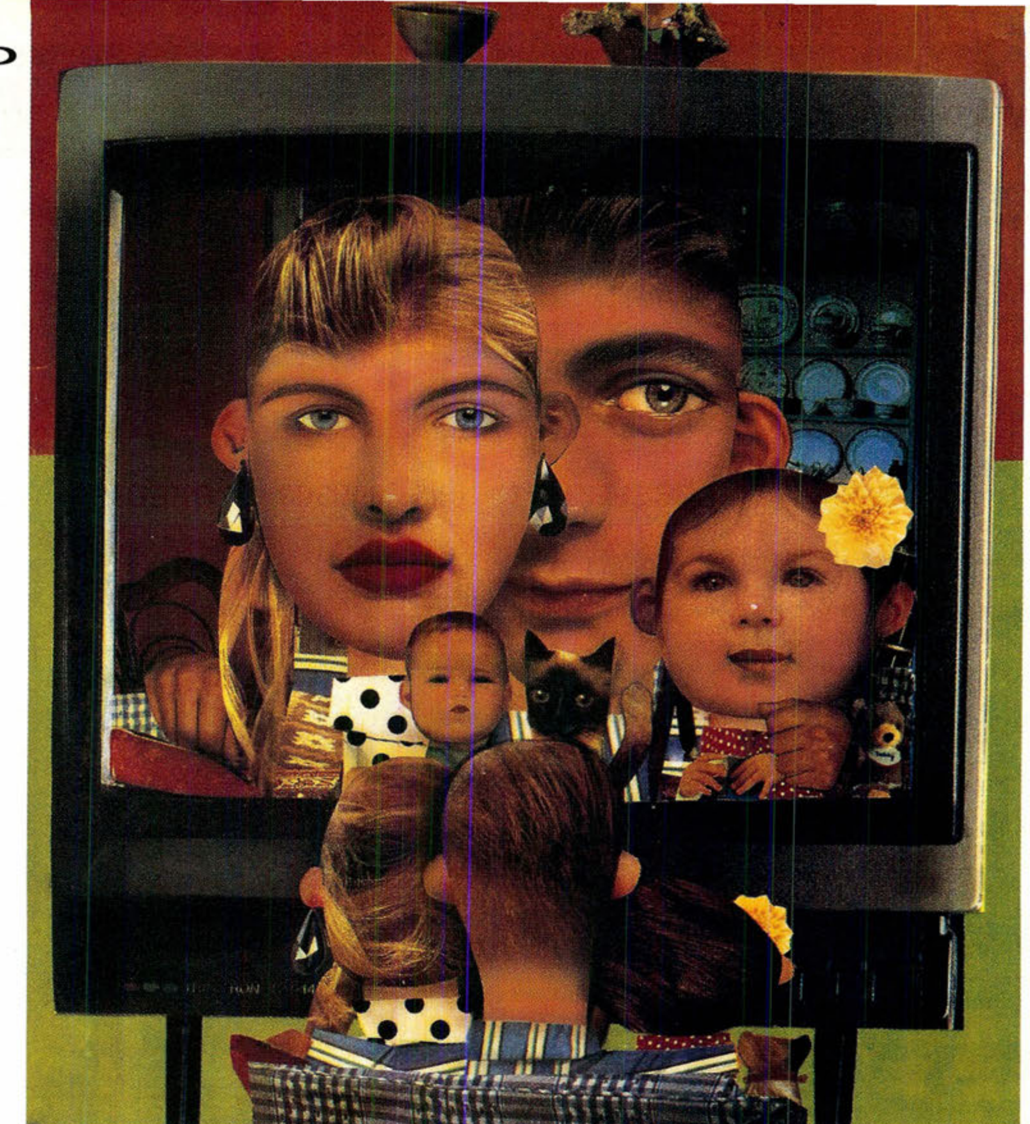
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Kodak has a vision of the digital future, and Photo CD is a step on the way there. Graham Bell looks at the release version for Acorn machines



JANET WOOLLEY

PHOTO CALL

First things first. The concept of Photo CD is very simple: a Photo CD is a recordable CD-Rom, or 'gold disc', which can store up to 100 or so colour images. Kodak intends that you take your holiday snaps to Boots to have them processed conventionally, but instead of having normal prints on paper, you have the negatives scanned and written onto a Photo CD.

The pictures can be viewed on the family TV, via a modified hi-fi CD player. Or in our case an Acorn machine. The whole process costs around £5 for the blank gold disc and just over a tenner for every roll of film you have scanned. Later, you can have another film added to the existing pictures on the disc.

While Kodak's vision of Photo CD as a visual storage medium – a replacement for the family photo album – is intriguing, it also seems fanciful. It could be seen as part of an attempt to digitise and integrate most family entertainment – CD audio, CDI and so on – but in reality most people don't want to view their holiday snaps on TV. Like CDI (Compact Disc Interactive), the idea may be stillborn in the consumer market. If Photo CD is unlikely to succeed as a mass medium, its significance is that it gives computer users affordable access to quality colour scanning. The Kodak Imaging Workstation, used to create a Photo CD, produces scans considerably better than any of the low-cost desktop scanners that can be connected directly to the Archimedes.

So students presenting project work using *Magpie* or *Genesis*, artists wanting to incorporate real-world images into their work in *Revelation* or *ProArtisan*, and publishers putting photographs in newsletters and magazines can use Photo CD instead of buying a colour scanner. Even with our eight-bit display system, the screen images are amazing.

What you need

First you need a Photo CD-compatible drive. This includes the capacity to multi-session, so that you can add films to the CD-Rom in successive stages, rather than in one go. You will also need an expansion card with the upgraded CDFS. If you already have a SCSI card and wish to upgrade, contact your original dealer. They will provide a Rom upgrade and supply a new version of *ChangeFSI*. For example Acorn offers its new Photo CD-compatible SCSI card (SCSI Mark 3 Adaptor Card) for £293.75. An upgrade to an existing Acorn SCSI costs £23.44.

For those starting from scratch, there are a number of options. The 600 series from Cumana provides fast access. It also has a low-price 300 range costing only £299 inc VAT plus £100 for its card. Morley offers its CD-Rom Revolution Drive at £299 plus VAT. including card.

How it works

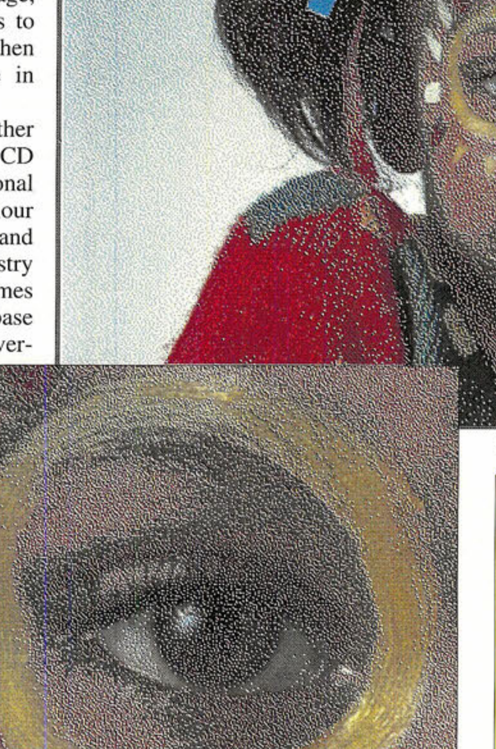
A Photo CD can be made from any set of 35mm negatives or 35mm slide film: at present, existing prints and artwork cannot be scanned in using Kodak's normal imaging system. Each picture is stored on the disc in a special file called an 'image pack'. The pack in fact contains five separate images, in a range of sizes from 192 by 128 pixels right up to 3072 by 2048 pixels. The middle resolution of 768 by 512 is known the 'base' image, and the others as Base/16, Base/4, 4xBase and 16xBase.

Each of the five images is stored in an encrypted 24-bit colour format known as YCC, but with the larger two sizes they are stored as a set of differences from the 'base' image (rather than as a complete image in themselves), and are additionally compressed. The total image pack takes up five or six megabytes of space on disc, but the largest image can be up to 18 or 24Mb when decompressed.

Using the system

The intention is that you use the version with the resolution you need: a postage stamp size image in a DTP document can be based on the Base/16 image, but if the image is to cover a full page, then the biggest image in the pack is used.

There are other variants of Photo CD too: the professional version for the colour reprographics and printing industry stores images 64 times larger than the base image, and a third version stores medical images. Photo CDs can be read in a standard CD-Rom drive, but only some are fully Photo CD compatible.



Zooming in on the action

Many can read only the first roll of film scanned on to the gold disc: only 'multi-session' drives can read the images added subsequently.

The Sony CD-Rom drive supplied as part of Acorn's Multimedia Expansion Unit is both multi-session and also 'double speed' – another significant benefit as it halves loading times for large files.

All CD-Rom drives connect to the computer's SCSI bus, so a SCSI expansion card is also a vital component: ensure the card includes CDFS, the CD-Rom filing system. Suitable cards come from Acorn, Cumana, Morley and others. See the boxout for more details.

But the details of the storage aren't so important when you're using the system. Current Risc OS machines can handle images up to 4xBase – the maximum 8Mb of memory isn't enough for 16xBase – but the module can also be set up to extract detail sections of the biggest images.



A contact sheet is provided in the basic support software

Soft support

At present, support for the module is provided in a new version of *ChangeFSI*: it will extract an eight-bit colour sprite, at 768 by 512 pixel resolution, which can then be saved or modified using any image manipulation package. Acorn is also providing software developers with a module to handle all the complexities of retrieval via a series of SWI calls that extract images from the Photo CD.

This means that support for the module can be built in to applications, and it's likely that

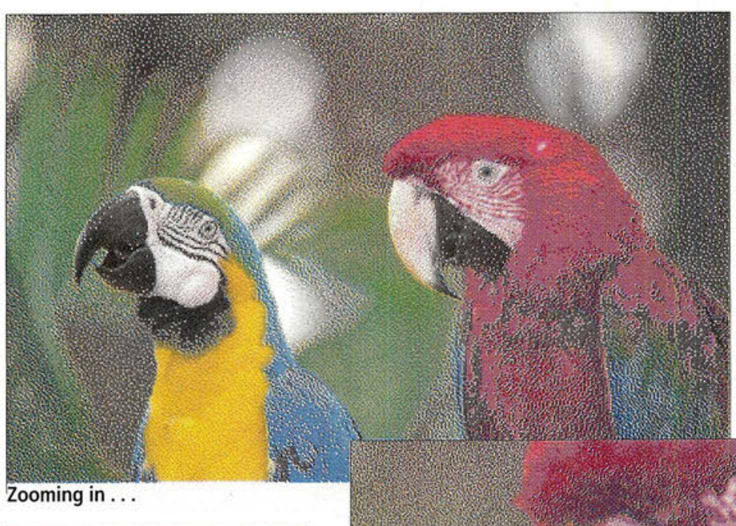
Some tips

1 It's important to realise that once an image is written to Photo CD, it cannot be erased. So rather than sending your film away to the processors to put on gold disc right away, get it developed and then choose which negatives you want to add to your collection on Photo CD. A list of frame numbers should be enough for the processors to scan only the images you want.

2 Use good film. The largest 16xBase images are so detailed they begin to show the grain of the film.

Photo CDs can be scanned from slide film too, which can often be of higher quality, but bear in mind it's best to leave the slides unmounted until after you've had the film scanned.

3 Once decoded, the image files are big; up to 24Mb if a 16xBase image is stored as a CMYK Tiff file. It is important to ensure you have enough memory and disc space on your Archimedes.



Zooming in . . .

. . . on different resolutions: you take your pick

you will soon be able to drag Photo CD images directly into page make-up programs like *Impression* and *Ovation*, or painting packages such as *Revelation ImagePro* and *Pro-Artisan 2*

Colour on the Archimedes is confusing. Some parts of the system, for example the way *Draw* or *Paint* define individual colours, are 24-bit colour. That is, you can define any object or pixel to have any 'colour' from 0 to 255 red, 0 to 255 green and 0 to 255 blue – eight bits of information for each colour 'channel', or 24-bits in total. And if you print that colour via Postscript or some other printer drivers, the full 24-bit colour definition will be sent to the printer. But on screen, at least in 16-colour modes like mode 12 or mode 27, four of the eight bits of colour information for each colour are thrown away – the display is only 12-bit colour.

Furthermore, in 256-colour modes like 15 or 28, even more information is lost: the display is something between six and eight-bit colour. Display cards from State Machine and Computer Concepts improve the display to an extent – though the main effect is to increase the resolution of the screen, true eight-bit desktop displays are possible with either card.

Future hardware from Acorn is likely to include full 24-bit displays using Arm Ltd's Vidc20 chip.

Image output

Future versions of *Impression* and *Artworks* allow the definition of real CMYK colours, which are stored as 32-bit values, and output to Postscript as 32-bit CMYK colour.

It will be possible to convert Photo CD images to CMYK and store them as 32-bit Tiff files, which can then be used in an *Impression* document, just as RGB sprites are used now.

Developments such as these should open the way, not only to easy access of images via PhotoCD, but also to better colour separation of those images as printed output.

Price box

There are a number of high street stores that offer Photo CD processing, including Boots. At present the charge for the CD itself plus one 24 exposure film, is about £15. Successive films are cheaper.

Many suppliers offer a complex pricing system. Currently Boots are charging £4.99 for the CD-Rom plus £12.99 for up to 28 photos, £16.99 for up to 39. Then for successive additions you can add a minimum of 10 shots for £7.20 plus 60p for each shot over 11.

Talking heads

PeteWorrall, education advisor

'There are a whole range of exciting roles for Photo CD in education. Consider the notion of our relationship to our environment: the real world, not an educational publisher's world.

'For example, how about a three-disc collection based on the West Midlands, shifting from a macro to micro viewpoint. The first disc is the West Midlands, disc two is the black country, disc three is Tipton. Imagine every picture lively, busy and packed with information and colour.

'Different categories might include places of worship, lifestyles, heritage, industry, entertainment and communications. Consider for a minute all those local photographers with negatives hidden in drawers, recording first-hand accounts, specific events, landmarks in the social and cultural history of a neighbourhood. This is all relevant material that enhances understanding of the world we live in, and could form starting points for further research. I can't wait to get started.

'Another idea which appeals to me is to have clear instructional visuals on say "How to replace a fuse and rewire a plug". The photographs could emphasise the safety aspects and be used to complement a practical technology lesson in school. Using the excellent zoom facility the detailed bits can be viewed without loss of screen resolution.

Jack Kreindler, graphics columnist

In the genre of home-computer entertainment, Photo CD has the potential to revolutionise games imagery. With the huge compression rates, but still slow decompression times, the technology would probably suit graphically less-intensive types of game, like golf simulators and adventures: just imagine being able to enter a room in which there stands a bookshelf, and then move towards any one book to observe the colour and texture of its cover. That's the sort of depth of interactive immersion I'm sure we'll see.

Then there is OPI: this allows extremely high resolution images to be incorporated into printed documents but displaying only low-res versions in the software, saving vast amounts of Ram.

Photo CD will provide a very powerful source medium for such images. Stored in 16.7 million colours, appropriate printer drivers could help output stunning documents, and Kodak already offers public facilities for writing images stored on film or slide on to CD-Rom, so documents could also include customised imagery using Photo CD.

Finally is anyone out there interested in making life easy for medical students? Photo CD could take most of the pain out of learning anatomy. How about hypertext (click on word and explanation pops up) on to a visual database of the human body? I'd give my right arm for something like this.

Video and Graphics from Wild Vision

*Designers, manufacturers and purveyors of fine expansion cards for the Acorn range of 32-bit microcomputers**



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Amazing but true! Wild Vision are giving away a fantastic 3½" floppy disc containing a selection of super dinosaur images in Draw file format with every product purchased before 22nd October 1993**. Alternatively, we can send you two complimentary tickets for the **monster** of computer exhibitions, Acorn World '93 at Wembley, 29th-31st October 1993.

Just state your preference when you order.

Wild Vision Digitisers

New! *ScanLight Video 256 combined video digitiser and scanner*
This is the two-in-one solution to your image requirements: a 256-greyscale video digitiser and scanner built into one single-width expansion card, thus saving space *and* money! 400dpi scanner head supplied, together with Computer Concepts' renowned ScanLight Plus image manipulation software. Price £220.00†.

GreyHawk
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Excellent value at an introductory price of only £99.00.



Hawk V9 Mk II
The *ultimate* real time colour video digitiser! State-of-the-art technology provides hardware processing capabilities *unique* to the Hawk V9 Mk II. Price £269.00.

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Wild Vision's Chroma-Genlock lets you superimpose computer graphics onto video to achieve effects like captions, credits and animation. Price £215.00.

Wild Vision Graphics

ColourCard
ColourCard offers more speed, more colours, more resolution and less screen flicker. It is suitable for Archimedes 300/400/500 series machines††, the A5000 and A3000. Screen update speed is configurable to 12 or 24Mhz, broadcast resolution PAL modes are provided for your video needs, and 32000 colour modes provide excellent preview facilities. All this on one card – at one price. £249.00.

The above cards have all been designed and manufactured to comply fully with Acorn specifications for expansion cards. Software for all the above products has been developed in conjunction with Computer Concepts.

Also available from Wild Vision

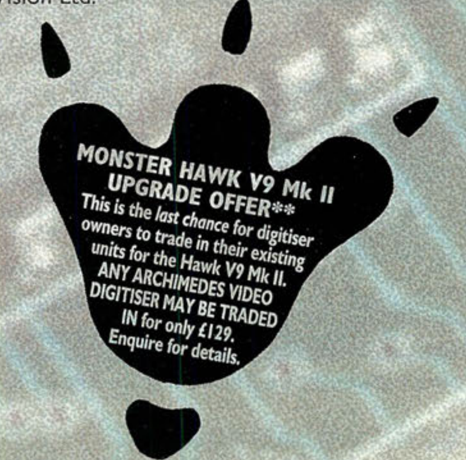
- Chroma 150 PAL encoder unit: record your computer output to video £185.00
- A3000 Expansion Box: use up to three Archimedes expansion cards with your A3000 .... £139.00
- Hawk V12 Video Framestores: convert your Archimedes into a high performance image processing and analysis system .... from £1990.00
- ADC1208 range of analogue to digital converters: data acquisition tools for a variety of scientific applications .... from £560.00
- Chroma 250/350 enhanced performance genlock cards £395.00

For more information on any of the above, contact Wild Vision Ltd.

* Excluding the A4 computer.
† Price includes carriage.
†† Early machines may need a genlock header fitting – see your local dealer for details.
** Offers apply only to orders for the above expansion cards placed direct with Wild Vision and at full listed price. Offers expire 22nd October 1993.



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Digitising allows you to grab images onto your computer screen. Where you find the images and how you manipulate them is limited only by your imagination. Pete Worrall offers six novel ways to digitise

To the uninitiated, a digitiser is a box or expansion card which allows you to grab images from a video camera (or from source) then view them on your computer screen as still images.

What happens next depends on a dash of creativity plus a fair helping of technique. Taking your saved digitised images for a walk (or run) through the exciting software available for the Arc can be a mindblowing experience. So, with the accent on ideas, here are six different electrifying ways to explore your digitiser's potential.

1 THE RESOURCE IMAGE LIBRARY

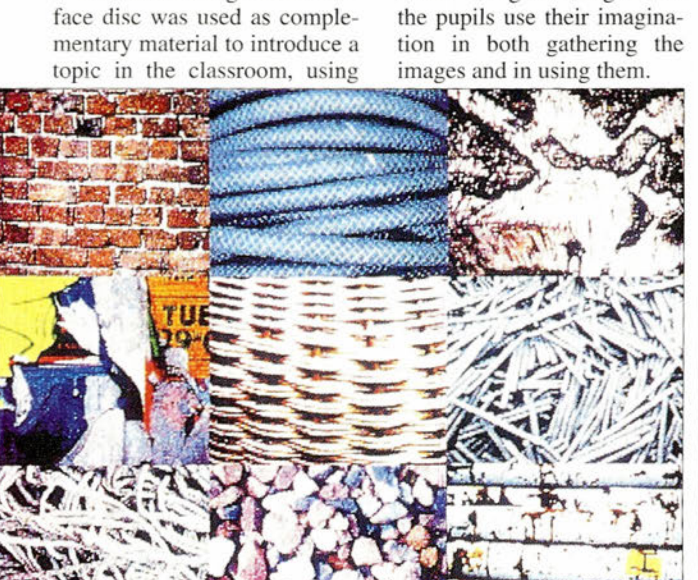
Taking an education angle first, the National Curriculum resembles a large, interrelated themepark. DIY digitising for that elusive resource material unavailable in published form, can be extremely rewarding and can enhance the learning process.

Using a video camera to gather images of bricks, wood, torn paper and so on for a surface (texture) screen took no time at all. The Pineapple Colour Digitiser and Micci software completed the job, placing nine images exactly in a three-by-three format; using the Image Pre-Select size control button you can easily configure different sizes.

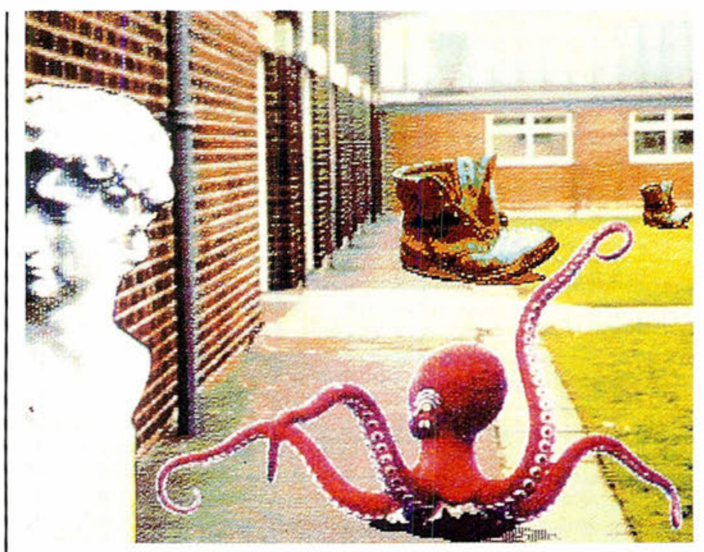
This multi-image demo-surface disc was used as complementary material to introduce a topic in the classroom, using the computer as an electronic blackboard. Any sprite can be viewed from the desktop, with a quick double-click on the file.

Discs containing contrasting or complementary images can be based on a range of topics such as the local environment, emotions, masks, seasons of the year, lettering styles, looking closely, symmetry, structure, transport, food, city, costume, colour, pattern; the list of images you can gather and then use in your work is endless.

All you have to do is get on your bike and gather the pics. The digitiser in this case is used to generate relevant, up-to-date images; this enhances conceptual development in the classroom. The great thing is that the pupils use their imagination in both gathering the images and in using them.



The texture images are gathered then arrayed in three-by-three format



An everyday scene transformed: image manipulation before and after

2 VIRTUAL SCULPTURE

Image manipulation is a strength of most computer systems. You can move trees, buildings, even people, to form an electronic collage. One of my favourite projects is to create a virtual sculpture: creating a sculpture garden in the school grounds for instance. Armed with the Canon Ion video-still camera, which takes 50 pictures on one £5 disc, I chose this quadrangle shot because of the strong perspective. Then I collected my sculptures: a bust, a boot and a red octopus. I digitised the images and saved them as 160K screens. Finally, I loaded everything into *ProArtisan* because of the onscreen scaling facilities.



First, eliminate the background around each sculpture picture, using the circular nib in the Draw menu with a colour not included in the sculpture. Care is required here – try Zoom with the fiddly bits. Next, cut out the sculpture in the Sprite menu using Grab Sprite with the background colour selected in the Key Colour option, then save the cut-out Sprite.

Load the background followed by the sculpture and position using the Scale Sprite option. Your results can be positioned, scaled and repeated *in situ*.

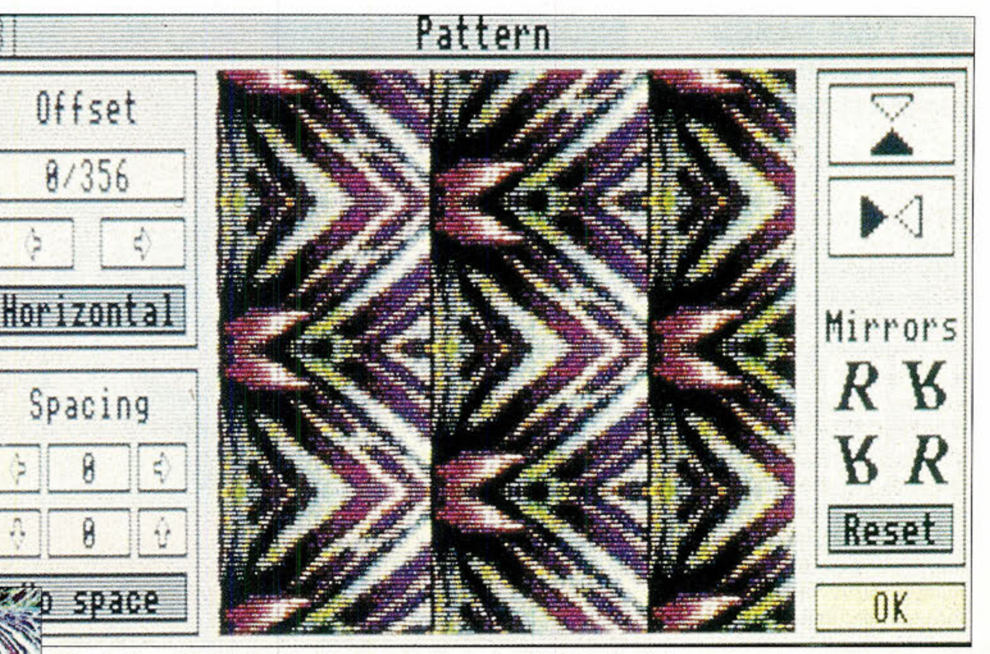
3 SIMPLE TEXTILE DESIGNING

This technique is so easy I'm surprised that so few people have tried it.

First create a Leaf Resource Disc, gathering images from gardens and parks. Close-ups like the one below are preferable, showing different vein patterns, colours and shapes.

Process through the Digitiser, creating one screen containing 16 images. It's a good idea to save a couple of whole-screen shots as well.

This time I used a whole screen image (shot with the Canon Ion camera set on Macro mode) chosen for the distinctive markings and rich colour, but for school use it is advisable to use the multi-screen leaves, to offer a greater choice. I used Pattern Generator on Longman Logotron's art and design software *Revelation Image-Pro* to repeat a section of the digitised image.



The leaf provides the pattern for a convincing and original textile design

Using the scissor tool to carefully cut out a small area, the fun really starts in the pattern window with its comprehensive range of tiling options.

There is so much choice here that it is worth saving several versions. Select OK, create a new screen and use the Paint roller on Motif tiled to see your William Morris fabric design in its full splendour.

To set the mood for your Autumn collection there is a comprehensive colour mixing desk in form of the Colour Shift controls. This will allow you to make those subtle colour changes.



4 CEZANNE IN THE BLACK COUNTRY

Getting your head around the power and potential of computer technology can be difficult, but the bottom line must be let's give it a go and see if it works or not.

In this case I explored the notion of applying a new palette, similar to that of Impressionist painter Paul Cezanne, over a dramatic and stark image of England's Black Country, taken using the Watford Black and White Video Digitiser.

Using *Pro Artisan*, the 16-greyscale palette of the digitised picture can easily be changed by using the pop-up fill menu and redesigning the colour sets 20 to 23; these can also be saved on the Disc Menu in the Multi-File section for later use.

Alternatively, use the Magic Pen on the Draw menu, carefully selecting the greyscales one-by-one and substituting them with your own 'designer' colourset. Again you are able to save these.

Finally, using the Tool menu, the Tone, and the Magic Pen function you can repaint the image using your new colour palette.

The resultant image is seen on the left here, producing a striking, and strikingly different take on the original bleak landscape. Play around with different combinations of colours until you find the most pleasing image.

What Cezanne might have come up with if he had been painting in Dudley in the late twentieth century

5 TIME-BASED STUDIES AND ANIMATION

This new area is my current favourite. Activities responding to a video camera, linked to a digitiser relaying a 'live' image to the screen can be unpredictable and exciting.

See yourself on telly, then try changing your image. In this example, Tina decided to explore a Jekyll and Hyde transformation by slowly disguising Dawn using cardboard cut-outs, coloured material and a variety of props.

Using the Canon Ion Camera, each stage of the transformation was recorded and saved through the digitiser as a quarter screen format, 17 in all. For this type of activity, have a set viewpoint by using a tripod for the camera. Each of the screens should be numbered in the correct order.



A mix of props, masks and digitising works a subtle transformation

The software used this time is *Splice*, excellent utility software which will turn the sprite frames into a film. First you load *Splice* onto the iconbar and increase the size of the film to 640 x 512. Then just select OK and a film window appears.

Load in the images by dragging them into the film window. This 17-frame sequence was saved as one 697K film format file.

6 PROMOTIONAL MATERIAL

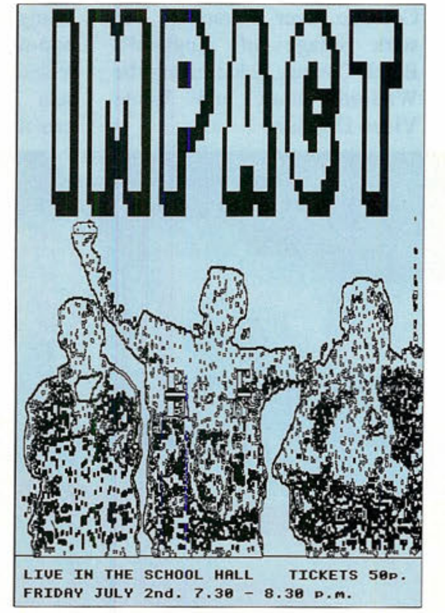
Promotional material is the name of the game these days.

A Year 10 Rap Band called Impact, at Willingsworth High School, required a poster for their debut school concert.

First, I used the Ion camera to take ten promo pictures, then saved them onto disc. The band wanted something different to attract attention, something 'hard edged with street cred,' I was instructed.

The original colour image was processed using Longman Logotron *Revelation 2*'s Edge Effects menu, using the Trace option; this gave a pixelated black-and-white abstract image. The strong graphics were chosen from the 26 on *ProArtisan* and saved as a sprite. Using *Revelation 2,* an A4 page, 20 x 27cms was created. Into this I dropped the *ProArtisan* graphics and the main image of the band, using Zoom, to see the whole layout.

The time, date and so on was completed using System Font on *Revelation 2*'s text facility. The black-and-white poster was printed on an Integrex printer, then photocopied onto coloured card.



Digitisers also have an important role in desktop-publishing the school newspaper. As a newshound, collecting relevant visual material and being in the right place at the right time is the key to success. The best equipment to have on hand for this is a small camcorder or the smaller Canon Ion camera. Remember that news is often spontaneous so it's a good idea to bolt the camera to your body for the day. Whether your digitiser is low or high cost, it remains a powerful tool.

Producing a near-photographic reality image is one of the few things it isn't capable of doing yet... at least not until screen technology has developed a little further.

Product details

Hardware – 2Mb A3000

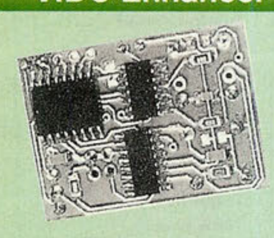
Pineapple Colour Digitiser
Panasonic Video camera
Canon Ion camera

Revelation Image Pro and *Revelation 2*
Longman Tel: (0223) 425558
ProArtisan
Clares Tel: (0606) 48511
Splice
OakSolutions Tel: (0274) 620423

Acorn Multimedia

- Multimedia Expansion £485
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VIDC Enhancer

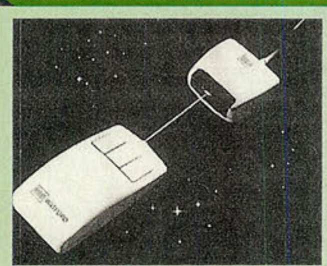


Our two unique VIDC add-on boards for the Archimedes cater for all VGA and Multiscan monitors and screen modes. The multimode software supplied provides all the new modes for the selected monitor type, including the now standard Computer Concepts modes. With VGA monitor, you are no longer restricted to a few modes. A Desk Top application supplied in disc, allows new modes to be designed and existing modes to be modified for particular monitors.

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Price: £29

Archi A4 Scanner



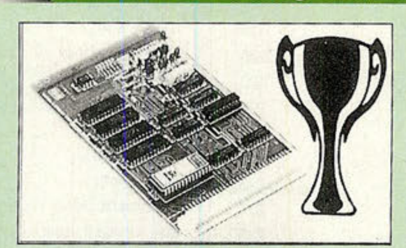
The 216mm scanning width can cope with both desktop scanning of single sheets, photographs, diagrams, etc with its fast ten page automatic document feeder, but it can also detach from the feeder to become a convenient hand-held full page scanner for larger documents or pictures. Scanned image control can be freely adjusted in increments of 10 dots per inch from 100 up to 400 dpi resolution with 64 levels of grey scaling. A built in shading controller and manual brightness control achieve optimum clarity. Unlike some scanners, which use a red light source, the Watford scanner uses a yellow/green source which vastly improves the light/dark contrasts, thus eliminating the effect where any red-based colours are faded down to white and so do not show up in the scanned image.

Archi A4 Scanner	£199
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A3000 Floppy Drive	£59	Keystrip	£5
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A3000 PSU	£49		

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Now supplied with NEW RISC OSVersion Software

Watford's Archimedes Video Digitiser is the most sophisticated digitiser ever designed for a micro. It provides a fast and flexible means of capturing images from a video camera or recorder for display and manipulation on the Archimedes range of Micros. Off-air televisions may also be digitised via a video recorder or TV tuner. Please write for further details.

Price £75

A Set of Colour Filters for colour image grabbing using a video camera £16

Archi to BBC Serial Link Mk 2

Using this simple data link, it is possible to solve all your BBC to Archimedes data transfer problems. The kit is supplied with a disk, and the necessary cable to connect the two computers.
- RISC OS 2 Version **£15** • RISC OS 3 Version **£16**

(P.S. For A3000 Serial Upgrade **(£19)** required)

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A3000 I/O Card (User, Analogue & IIC)

This NEW versatile I/O Card from Watford, fits inside the A3000 and includes an Analogue to Digital Converter, a User Port, and an InterIC (IIC) connector.

The card allows many of the peripherals developed for the BBC to be used with the Archimedes A3000. The ADC and User Port have the same pin out and connectors as the BBC computers.

Extensive RISC OS software is supplied to provide BBC OSBYTE calls for support of the ADC and User Ports, including the BASIC keyword ADVAL. The software provides extended RISC OS support for separate interrupts from both the ADC and User Ports, permitting easy interrupt driven operation.

The card is provided with all the software in ROM and is automatically loaded when the machine is turned on.

Peripherals connected to the ports can obtain up to 500mA of power at +5V. A fuse is fitted to the card to protect the A3000 from damage arising from accidental short circuit of the power output.

Features
- An 8 bit User Port with a standard 20 way IDC connector, compatible with the User Port on the BBC computers and the Archimedes I/O Podule.
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- An InterIC (IIC) Port with a 5 pin DIN socket to connect the A3000 to external IIC devices **£38**

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Eliminates need to have a User Port in A3000/305/310/400/540 when using Concept Keyboard £28

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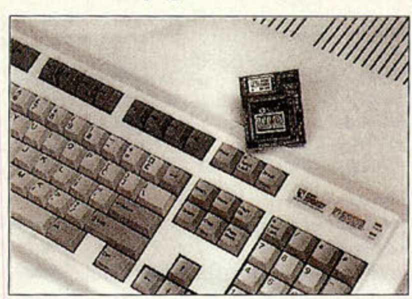
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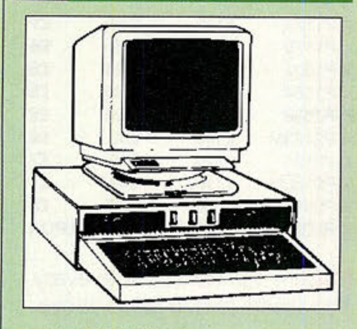
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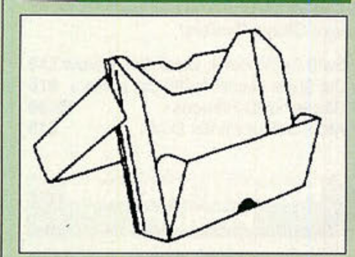
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Credit Card Hotline 0582 745555

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	Printer	CSF	Ribbon
LC15	£186	£135	£5
LC20	£102	£60	£4
LC100C	£117	£65	£9
LC24-15	£242	£135	£5
LC24-100	£142	£69	£5
LC24-20 Mk2	£170	£65	£5
LC24-200C	£205	£65	£12
LC200 C	£151	£65	£12
Star Jet SJ48	£169	£43	£16
SJ144C	£399	–	–
XB24-200C	£322	£80	£12
XB24-250C	£389#	£139	£12
ZA-200C	£258	£89	£12
ZA-250C	£324#	£139	£12

Includes 12 months on-site warranty

- Black Ribbons for Colour Printers £5
- Serial 8K I'face LC10/15/24/200 £52
- 32K Buffer LC/XB24-10; 15; 200 £52
- Star/Archi Colour Printer Driver £15

NEC Printers

	Printer	CSF	Ribbon
P22Q	£190	£59	£6
P32	£255	£59	£6
P62	£339	£79	£8
P72	£395	£115	£8
P90	£577	£115	£8

- Jetmate J400 £169; • Jetmate J800 £249
- Black Ribbons P20; P32 £6
- Ribbons P60/70/P90 Black £8; Colr £14
- P60/70 Colour Option Kit £59
- CSF for P20 £59; P60 £89; P70 £89

Laser Printers

All Laser Printers (excluding HP Lasers) include 12 months on-site maintenance

Brother HL4-PS Postscript	4ppm	£965
Brother HL6 – NEW –	6ppm	£427
Brother HL10-PS	10ppm	£1265
Brother HL10-DV	10ppm	£1016
Brother HL10-DPS	10ppm	£1435
Canon LBP4 LITE	4ppm	£478
Canon LBP4 + 1.5M RAM	4ppm	£639
Canon LBP-8 Plus IIR	8ppm	£1420
Canon LBP-8 IV 600DPI	8ppm	£932
Epson EPL-4300	4ppm	£520
Epson EPL-5000	6ppm	£439
Epson EPL-5200 – NEW –	6ppm	£525
Epson EPL-7500 PS	6ppm	£1135
Fujitsu VM600	6ppm	£539
HP Laserjet 4 ML	4ppm	£757
HP Laserjet 4	8ppm	£1049
HP Laserjet 4L – NEW –	4ppm	£459
HP Laserjet 4M PS	8ppm	£1369
HP Laserjet 4Si	16ppm	£2199
HP Laserjet 4Si MX 1200 DPI	16ppm	£3325
NEC Silentwriter S62P #PS	6ppm	£990
NEC Silentwriter S102	6ppm	£893
NEC Silentwriter2 290	8ppm	£1125
NEC Silentwriter 290P PS	8ppm	£1469
OKI OL400E	4ppm	£399
OKI OL410		£589
Panasonic KX-P4410	5ppm*	£445
Panasonic KX-P4430	5ppm*	£579
Panasonic KX-P4451 DB	11ppm*	£839
Panasonic KX-P4455 PS	11ppm*	£1249
Star LP-4 Post Script	4ppm	£759
Star LS-5	5ppm	£473
Star LS-5 EX (RISC Based)	5ppm	£595
Star LS-5 TT True Type + Mac	5ppm	£739
Star LP-8 III Postscript	8ppm	£1125

* 2 years on-site warranty

- HP Laserjet 4L 3 years on-site £100
- HP Laserjet 4Si 3 years on-site £505
- HP Laserjet 4/4M 3 years on-site £170

Laser Toners

Canon 2, 3 & 4	£52	EPL 71/7500	£117
KX-P4420/50i/55	£20	HP4/4M	£72
Canon LBP8-IV	£75	EPL 8100	£117
KX-P4420/30	£30	HP Laserjet 4L	£59
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NEC SWriter	£84	OKI OL400/800	£21
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EPL 40/41/4300	£55	Star LS5	£69
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Laser RAM Upgrades

Type	1M	2M	4M
IIP; IIIP	£49	£80	£132
II & IID	£60	£96	£142
LJ4/4M	£69	£75	£1758M/£279
EPL4100	–	£120	– 512K/£52
KX4420/50i	£59	£89	£149
NEC S62/S102	£99	£180	–
Star LBP	£139	£275	–
Laserjet 4L	£75	–	–

Jetpage Postscript Cartridge

- HP IIP/IIIP £225 • IID & III £227

Various Add-Ons

- Laserjet Appletalk Interface £135
- HP Adobe Postscript + Cartridge £359
- Pacific Page Postscript £259
- HP Premier Font Collection £28
- Laserjet Various Font C'tridges *from* £45
- HP Postscript Module for LJ4 £270
- Laserjet 4 Powered envelope feeder £199
- Jetdirect Ethernet Card for Laserjet IIISi/4/4Si £359
- 500 Sheet paper cassette (3rd Bin) £205
- HPIIP/IIP Lower Cassette Tray £115
- Canon LBP-4 Lower Cassette Tray £96
- Ozone Filter P4420 £9 • P4450/55 £20

Panasonic Printers

	Printer	CSF	Ribbon
KX-P1123	£129	£49	£7
KX-P1170	£98	£59	£6
KX-P1624	£267	£126	£8
KX-P1654	£334#	£126	£8
KX-P1695	£270	£126	£6
KX-P2123M	£148	£69	£8
KX-P2124	£220	£89	£7
KX-P2180M	£128	£69	£7
KX-P2624	£272#	£126	£8
KX-P2023	£158	£155	£POA

FREE – Printer lead with every Panasonic printer listed above

Includes 12 months on-site warranty

- Dustcover for 80 column printer £6
- Serial Interface for above Printers £46
- Black Ribbons for P1081, 1180, 1124 £7
- Brown, Blue or Red Ribbons for KX-P1081/1592/1595/1695 £9 each
- 32K Buffer for above Printers £16

Colour Kit for KX-P2180; KX-P2123 and KX-P2124 £37

Citizen Printers

120D+	£94	Swift 200	£178
PN-48	£179	Swift 240	£200
Swift 90	£132	Swift 240C	£212
Swift 90C	£198		

2 years parts and labour warranty on all above Citizen Printers.

- Swift 24 Ribbons; Black £4; Colour £13
- Cut Sheet Feeder for 80 col. printers £75
- Citizen 120D Ribbons £3.50
- Archi Colour Printer Driver £15

Hewlett-Packard Printers

DJ500 Colour	£242	DeskJet 1200C	£1045
DeskJet 510	£199	DeskJet 1200C PS	£1452
DJ550 Colour	£399	Deskwriter 550C	£459
DJ Portable	£175	PaintJet XL300*	£1675
Deskwriter	£229	PaintJet XL300 PS	£2619
Deskwriter 500C	£349	Quiet Jet Plus	£299

* Includes 12 months on-site warranty

3 years on-site maintenance available as follows:
DeskJet & DeskWriter mono £55
DeskJet & DeskWriter colour £65

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- Ink Cartridges Black £16; Colour £23
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- Ink Refill Double Pack (JetFill) £10
- Ink Refill High Capacity (Jet Fill) £16
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- Archi – DJ550 Colour Printer Driver £14
- Epson FX Emulation Cart. (500 mono) £45
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- Wordperfect Cartridge £89
- DJ 500 Dust Covers £6
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22706B – Prestige, Elite, Line Draw £55
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- 630P 200 Z-Fold paper 8.5 x 11 £14
- 630Q 50 Transparencies 8.5 x 11 £39
- 630S 50 Transparencies A4 £40
- 630Y 200 Cut Sheets 8.5 x 11 £14
- 631Y 200 Cut Sheets A4 £18

Epson Printers

	Printer	CSF	Ribbon
FX870	£265	£39	£4
FX1170	£335	£69	£6
LQ100	£132	–	£4
LQ570+	£201	£39	£4
LQ870	£355	£47	£6
LQ1060	£585	£155	£6
LQ1070	£310	£69	£6
LQ500	£204	–	–
LQ1170	£434	£69	£6
LQ2550	£669	£360	£6
LX100	£114	–	£4
LX400	£92	£69	£4
LX850+	£134	£69	£4
LX1050	£203	£125	£6
SQ870	£419	£170	£23
SQ1170	£555	£155	£23
SQ2550	£669	–	£23
Stylus 800	£219	–	£10

Epson RS232 Interface

Standard £28; +8K Buffer £75

- LQ100 Tractor Feed £29
- FX850/LQ800/850 Tractor Feed £69
- FX/LQ1050 Tractor Feed £85
- LQ2500/2550 Tractor Feed £90
- Dust Covers for 80 col. printers £6
- Stylus 800 Transparencies (50) £35

Canon Bubblejet Printers

	Printer	CSF	2nd Bin	Ink Cart
BJ10SX	£165	£43	–	£16
BJ200	£244	–	–	£16
BJ230	£280	–	–	£16
BJ300*	£305	£88	£88	£12
BJ330*	£369	£92	£79	£12
BJC800C	£1219	–	–	£16

- BJ10E/10EX/10SX/200/230 Jumbo Ink Refill Pack (Jetfill Twin Pack) £12
- Optional battery pack for BJ10EX/SX £33

* Includes12 months on-site warranty

Professional Printer Stand



The professional printer stand takes hardly more space than your printer. Due to the positioning of the paper feed and re-fold compartments, ie. one above the other, the desk space required for your printer functions is effectively halved. Its ergonomic design ensures smooth paper flow and automatic refolding.

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Give your computer system a touch of Class with our elegant smoke finished Perspex Printer Stand.

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Connects	Serial	Parallel
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• 3 to 1	£15	£17
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ARM 3 Upgrade with FPA socket	£179
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DeskJet/LaserJet/JP150 Turbo Driver	£49
Dongle Dangle	£7
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Scanlight Junior 256 (CC)	£199
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Risc-OS 3 Carrier Board 300/400	£21
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Archi Assembly Language	£14.95
Archi First Steps	£9.95
Archie Game Makers Manual	£14.95
Archi Operating System	£14.95
C: A Dabhand Guide	£14.95

The Above have accompanying discs add £7

Acorn DTP Adv User Guide	£14.95
Basic V: A Dabhand Guide	£9.95
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Game Makers Manual	£14.95
Guide To Wimp Programming	£14.95
RISC-OS 3 PRM's	£99
RISCOS Style Guide	£10
Acorn DTP Manual (Acorn)	£10
AASM Manual (Acorn)	£25
ANSI C v4 Manual (Acorn)	£25
DDE Manual (Acorn)	£25
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PRINTERS

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10 out of 10 Mathematics (Algebra) is packed with subjects, levels and activities to challenge all children from Key Stage 1 right up to Key Stage 4.

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The SIX challenging games cover ALL these Levels of National Curriculum ATTAINMENT TARGET 3 – and MORE!

Graphoid

3b.2 Use inverse operations in a simple context
4c.2 Work with co-ordinates in the first quadrant
5b.4 Use co-ordinates all four quadrants
6c.2 Plot simple mappings
7b.1 Solve simple inequalities (graphically)
8b.2 Locate regions by inequalities

Hook It!

2b.1 The use of symbols in place of numbers
3a.4 Recognise whole Nos. divisible by 2, 5, or 10
4a.1 Recognise terms like square, multiple, and factor
5a.3 Understand terms like prime and square root
6b.1 Solve linear equations
8a.1 Manipulate algebraic equations

Processor

2a.2 Use number patterns up to 10
3b.1 Inputs and outputs to simple function machines
4a.2 Explore the properties of numbers
4b.1 Use simple formulae expressed in words
6c.1 Use simple mappings
8b.1 Solve a variety of linear and other inequalities

Turbo Raft

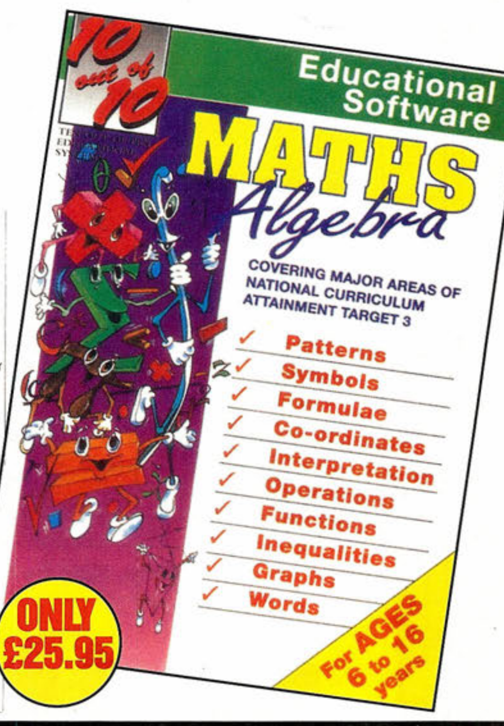
1a.1 Continue repeating patterns in objects
3a.2 Explain number patterns
5a.1 Add to sequences
5a.4 Recognise patterns in equivalent fractions
7a.1 Symbols to express the rules of sequences
9a.2 Indices for negative and fractional values

Chain Up

2a.3 Distinguish odd and even numbers
4a.3 Recognise Mult'n. and Div'n. are inverse opp'ns.
5b.3 Understand co-ordinates in all four quadrants
7b.4 Simultaneous equations – graphical methods
8a.4 Interpret graphs of the form y=mx+c
8c.1 Know the shape of graphs (eg. quadratic & cubic)

Rib Tickler

2a.1 Explore simple number patterns
4b.2 Use simple equations expressed in words
5a.1 Generating sequences/Interpreting instruct
5b.1 Express simple functions in symbols
7b.2 Solve simple inequalities
8a.2 Using and rearranging functions



ALSO AVAILABLE – other subjects in the *10 out of 10* Series

Early Essentials

For Children Under 7 Years

Early Essentials is outstanding. All of the activities are not only very enjoyable but they're well thought through. Infant teachers in my school who've seen the package have been most impressed and I feel that it's one of the best multi-purpose infant packages I've seen in a long while. If you have young kids then get it for the home. If you're a teacher, hammer on the headteacher's door and beg for enough money to buy a copy.
– Archimedes World (July '93)



Maths (Number)

For Children 6 to 16 Years

This is a first rate set of games suitable for a wide range of ages and abilities. They are educationally worthwhile and exciting to play – a rare combination. They are highly recommended for both home and school use
– Archimedes World (Dec. '92).

10 out of 10 is unique in home-based programs because of the National Curriculum link and it makes a good resource for parents as well as good educational fun for children
– The Micro User (Sept. '92)

English

For Children 6 to 16 Years

With its elaborate system of colour-coded levels of achievement and multiple levels of difficulty, 10 out of 10 is a useful compilation of programs based on the current National Curriculum for English... The zappy delivery and range of activities is guaranteed to sustain the attention of even reluctant learners
– RISC User (Jan./Feb. '93)

Most importantly as the games are fun children can't help but learn.
– Acorn.Computing (March '93)



The INNOVATIVE *10 out of 10* Series

These new suites of programs are a revolutionary step forward in educational software. They ALL use a unique system of automatically recording children's progress as they play and learn. This is just one of the many features which sets the 10 out of 10 Series in a class of its own.

Each package contains **SIX** expertly designed educational games **covering TEN essential areas** of a child's education. All packages cover a **wide age range** and subjects are available for all children from three to sixteen years of age.

As children learn from the games their progress is **automatically recorded in 36 specific challenges** – the National Curriculum Attainment Targets of these areas are optionally displayed on screen in subject-based packages. All the programs are designed to be **fun for single players or groups** and the assessment system can monitor the progress of up to 4000 children with **no input from parent or teacher** needed. Watch them, join in the fun or leave them and return later to check their progress. **You're in control!**

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Maths (Geometry) French German Science
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VISA **0742 780370** Access

Site and Network Licences are available – please ring for details.
* The free trial may not be used in conjunction with any other offer.

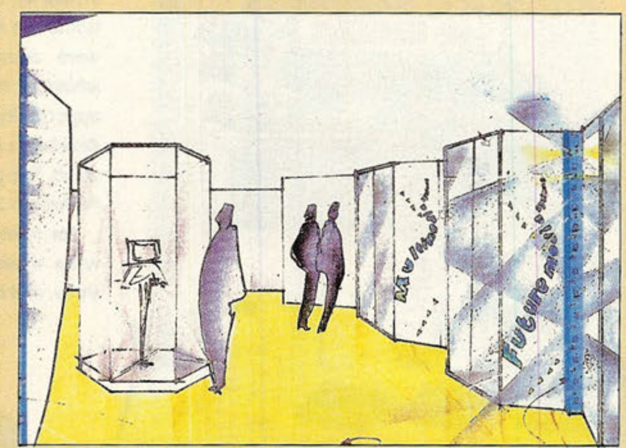
.. FREE ... A chance for YOU to TEST THE BEST on your Acorn, Amiga or IBM/PC

Enter the ACORN WORLD

What's happening? What's being released? Who's going to be there? What's in it for me? All this and much much more is answered below

As you read this article, many Acorn software and hardware companies will be making their last minute preparations. Programmers will be burning the midnight oil. Writers will be proof-reading their latest manual. Discs will be running off the production line.

The deadline is 29 October. The event: the Acorn World show, this year hosted by Acorn Computers for the first time and sponsored by *Acorn User*. The Autumn show is the biggest event of the year for Acorn, the most auspicious time for any new releases and a haven for extra events, competitions and so on. All in all it is an exciting time of year and we have decided to dedicate part of this issue to let you know what is in store...



An artist's impression of the Acorn World entrance

Show events

● As show sponsors, *Acorn User* staff will be out in force over the show weekend. We will, of course, have our own stand in the centre, but you can also catch us in the publishing area, demonstrating magazine layout using *Impression*. And the editorial team will be hosting a talk in the theatre, revealing the inner secrets of how we create *Acorn User* every month.

● But the part which is most exciting for us and for you, the visitor, are the inevitable new releases. We have picked out a selection of launches on page 48, but remember, this is only a selection. There are plenty more products coming out, so to get the complete picture, take a look at our stand-by-stand guide that starts on page 51.

● If you are involved in education, then you will be interested in Clare Johnson's column on page 61. As an education advisor for Bexley, Clare has her route all mapped out, and offers an interesting perspective on what is relevant for today's schools.

● At the other end of the scale, games fans should turn to page 65 for a pre-show glimpse of what could be one of the most exciting areas.

● Finally, there are several competitions and freebies to be found at the show. Our stand will feature a major contest: see page 63 for full details – and several stands will be running their own draws. Wyddfa Software are giving away a £50 software voucher and Cumana will have a CD-Rom competition on its stand.

● On the topic of freebies, pocket book owners will be able to pick up some PD software from the Acorn stand. And for those who like an attractive desktop, Acorn is giving away a copy of its new 3D icon set.

● So without further ado, let's take a look around...

The Acorn Gallery

For those who want to see ahead, the Acorn Gallery is the place to be. Show director, Kevin Coleman says: 'this is a way of showing where Acorn has been and where we are going.' Acorn will show off its past, and reveal what you can expect in the future. Subjects range from Acorn's environmental record to the future of graphics; the next generation of machines and the move towards animation and TV techniques. Sound is on the move – the exhibition traces the journey from a beep to CD quality.

Show Details

Dates: 29 to 31 October
Opening times: 10 am to 6pm
Venue: Wembley Exhibition Centre, Hall 1
Advance tickets: Adults £5 Children £3 Families £15
On the door: Adults £6 Children £5
Ticket info: (0295) 788386
London Underground: The exhibition is a five-minute walk from Wembley Park Station on the Metropolitan Line or a ten-minute walk from Wembley Central Station on the Bakerloo Line
British Rail: Wembley Stadium station provides a service from Marylebone Station, London. To reach the hall itself, follow local signs to Wembley.

Readers of Acorn User can get 50p off the price of a ticket on the door by bringing in the voucher below



What's new

We take you on a whistle-stop tour of some of the new releases planned for the show

ACORN MACHINES

STAND: Acorn

If you're after a new machine, then keep a look out for Acorn's new deals. The A3010 bundle now costs only £399 and includes *Zool*, and *StartWrite*. Acorn has also cut prices on its other machines.

For those who relish the idea of 33MHz worth of speed, there is a new top-of-the-range A5000. For a full description of Acorn's plans, turn to this month's lead news story on page 7.





PHOTO CD

STAND 79, Kodak

At last: a chance to see the much-hyped PhotoCD in action.

Kodak is offering a 25% discount, so bring a film along to the show and see the results on CD-Rom within a few days. We have a full review of PhotoCD this month on page 30.



LOW COST CD-ROM

STAND 41a, Cumana

Cumana has reacted to the release of PhotoCD with new hardware products and some aggressive pricing. Cumana will have its normal range of CD-Rom drives plus a new low-cost CD-Rom drive, priced at £299.



ARCHITECH

STAND 116, Explan

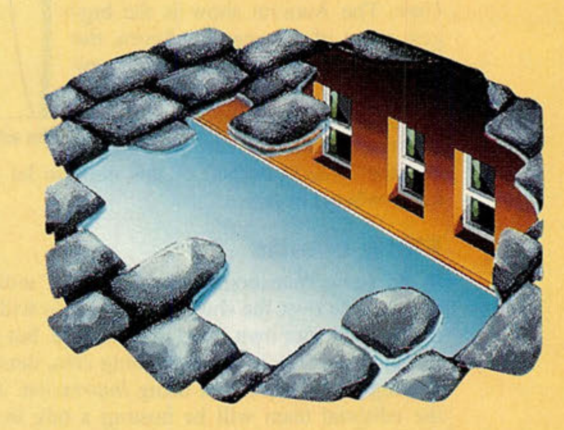
After a long wait, *Architech* is to be released at the show. Based on the program *Tabs*, *Architech* designs 3D models on screen with a colour-rendering system and 3D editor. These designs can then be used to create accurate 3D models – should be appealing to schools and home users. Also take a look at *Occasion*, an extended version of *Event* with diary, calendar, address book, phone book and notebook.

PROARTISAN 2

STAND 47, Clares

Without a doubt, this rates as one of the major software releases of the year. *ProArtisan 2* offers advanced bitmap graphics and the show provides an opportunity to compare it against its main competitor, *Revelation Image Pro*, on the Longman Logotron stand. See page 100 of this issue for the full review of *ProArtisan 2*.

For music lovers, *Rhapsody 3*, which allows you to write musical scores, will also be launched at the show, and hopes to build on its predecessor's success.



CRYSTAL MAZE

STAND 35, Sherston Software

As part of a growing trend to link software with TV programs, films and so on. Sherston has jumped on the bandwagon with its show release: *The Crystal Maze*. Based around the Channel 4 show, the player gets involved in a series of puzzles and exercises to collect crystals and ultimately escape from the maze.



NODDY

STAND: Acorn games area

Extremely successful on other formats, *Noddy's Playtime is* produced by Jumping Bean, and offers great value for money and a very polished approach.

There are several parts to this application, including a tour around Toytown. Highly suitable for home-use, it should be very successful in the Acorn market. If you are a primary teacher, or have young children, check it out for yourself.





IMPRESSION PUBLISHER

STAND 67/68 Computer Concepts

Once again, Computer Concepts has set new limits for Acorn DTP software. The show will see the release of *Impression Publisher* which offers support for four-colour separations, automatic tracking and kerning, a bundled thesaurus, Tiff loading, 24-bit image handling and other features. Good news for those who take DTP seriously.

Meanwhile, a hybrid of the existing *Impression 2* package and the *Advance* wordprocessor will become *Impression Style*, a high-range wordprocessor costing only £99. This also offers a bundled thesaurus and many other new features. While you're at the CC stand, check some other new releases – *AudioWorks* – for editing audio files, a new colour inkjet printer and its thesaurus/ dictionary.

REPLAY PLUS

STAND 121, Irlam Instruments

On the Irlam stand will be a new version of *Replay DIY*, with improved image quality and movie editing. Also check out a new professional sound sampling card. It's not gone into production yet, but the package will be aimed at those who need high quality sound.

DINOSAUR DISCOVERY

STAND 119, 4Mation

In topical mood, 4Mation is releasing its new Archimedes version of *Dinosaur Discovery*, which was popular on the Beeb. Also take a look at *Flossy the Frog*: a promising example of interactive fiction. Also showing: the new *Hatchback* program (see page 99 of this issue) for our review.



FIREWORKZ

STAND 74, Colton Software

Stage two is underway in the Colton camp with the show launch of *Fireworkz*, an integrated spreadsheet and wordprocessor. For those who wish to work on documents containing text, plus calculations and charts, this release is well worth a look.

And some others...

- *Prime Mover* by Minerva (stand 42) allows creation of simple animations from sprites. Also *Keyboard Trainer*: a new way of learning to play music.
- Academy television (stand 46) is releasing a range of new CD Roms, including the first in an Environmental series. Taking a variety of water issues – flood prevention, oil spills – it aims to provide information on a range of specific topics.
- *Talking Stories* from Wyddfa (stand 94) builds into an amusing story, using the children's responses. Like all Wydda software it uses sampled speech.
- Longman Logotron (stand 72) will show the latest addition to the *Landmarks* series: *Tudors and Stuarts*.
- Cambridgeshire Software House (stand 37) has a new control package. *Complete Control* avoids the need for expensive external peripherals.
- Morphing continues its ascendency on Acorn machines with the release of Oak computer's *Rephorm* (stand 81).
- Topologika (stand 44) will have the new *Wordbank*, which collects words to create language spelling books.
- A new font supplier makes an entrance at the show. Look has a large range of fonts for £99 (stand 23).
- Meanwhile, Risc Developments (stand 77) releases its version of C, *Easy C*, for £50.
- Wild Vision continues its policy of innovation with multimedia card, Eagle M2, a 16-bit sound sampler named Lark and the Chroma 500 genlock card.

STAND BY STAND

Ian Burley shows you the sights in our A to Z guide to all of the stands at the Acorn World show

4MATION (119)

Interactive educational fiction is top of 4Mation's list, courtesy of *Flossy the Frog*. *Flossy the Frog* is set to be a big hit with schools according to 4Mation's Neil Souch.

A topical and trendy re-release from 4Mation is *Dinosaur Discovery*, first released in pre-Archimedes days on the Beeb. Other 4Mation regulars include the relatively new *Hatchback* graphics fill utility.

ACADEMY TELEVISION (46)

Britain's largest independent distributor of TV programmes has joined forces with Interactive Learning Productions and Yorkshire TV to produce CD-Rom multimedia titles for education. Watch out for *Water*, from Academy's Environment Series, *Directions 2000* which is for French students and The *Elements*, the first in a series of science discs.

ACORN COMPUTERS

As hosts of the show, Acorn will have over seven areas, including a games arcade, a creche, an education area, the gallery, a publishing area and their main stand. There will be glimpses of powerful new technology to come in the gallery.



Engaging more industry standards will be a priority too – expect to see some interesting developments in industry standard networking for example. *Photo CD* and multimedia with *Replay* full motion video will figure strongly. Once again Acorn is setting up continuous demonstrations at a special theatre presentation and among the guests will be Psion, which developed the Acorn PocketBook. Another section will be dedicated to publishing, including professional printing.

ACORN USER

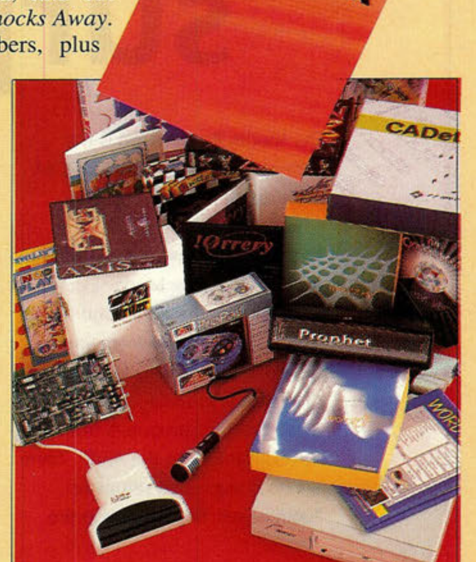
As sponsors of the show, the *Acorn User* team will be on hand offering technical advice and help to readers. There will also be a chance to see our new *Acorn User* Handbook, find out about our resource discs, and play *Chocks Away*. All are available to new subscribers, plus there's our huge competition.

ALEPH ONE Ltd (34)

Aleph One is sharing its stand with Atomwide. Aleph One is best known for Arm3 processor upgrades and cards to make the Archimedes run PC software at a comfortable speed. With Aleph One's current Arm3 stock being cleared at a cheap price, could there be a new replacement at the show?

ALSYSTEMS (92)

All sorts of hardware goodies are going to be featured by Alsystems, along with some special show deals. The accent is on 'big' with large screen Eizo monitors, hard drives up to 1 and 2Gb capacity and tape streamers for data backup.



ANGLIA TV (109)

Anglia is a prolific producer of educational titles and now has an expanding range of CD-Roms. Look out for CDs on *Castles*, *World* and *County Maps* as well as *Key Plus 3.0* and the latest version of *Key Author*.

APRICOTE STUDIOS (41)

If you need accounting software, Apricote's *Prophet* solution is one of the most successful. At the show the latest version will be on display.

ARM Ltd (66)

For the first time the designers of the chips which make the Archimedes special will be at an Acorn show. With luck, those interested should get a look at the new Vidc20 video chip as well as the Arm610 Risc processor.

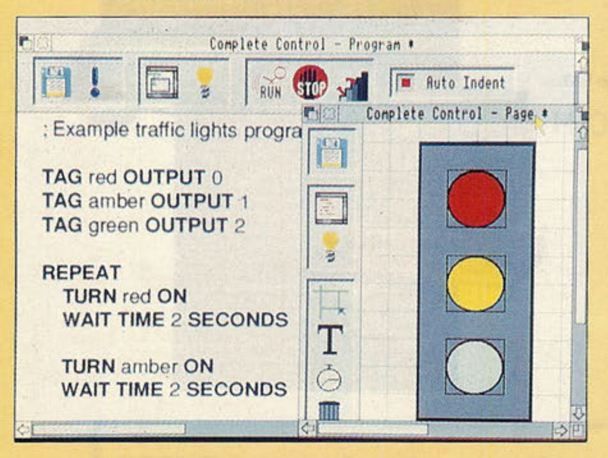
The Acorn Action Pack (left) with an A3010 and bundled software will be part of an aggressive pricing campaign launched for the show. Arm Ltd will be showing off its latest chip technology (shown below) and Acorn User will offer a show competition and a new subscription deal (shown above).

BEEBUG (77)

Beebug will be at the show with a large range of hardware and software supplies at special show prices. Offers to check out include the A3010 Home Professional system and Beebug's beefed-up Acorn A4 portable.

CAMBRIDGESHIRE SOFTWARE HOUSE (37)

New products on the CSH stand this year include *Amazing Maths* for exercising your mental arithmetic. *Complete Control* is a software-only package which is designed to fulfil the objectives of a software and hardware-based control technology package for less cost. *Gemini* is a multi-option matching pairs memory concentration game.



CLARES MICRO SUPPLIES (47)

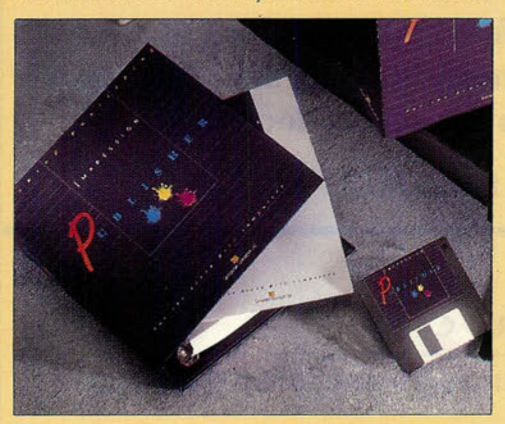
Besides regulars like *Serenade*, *Topographer* and *Rhythm-Bed*, Clares will have *Rhapsody 3* and *ProArtisan 2*. Also look out for the new graphing package *Plot*, *NightSky* and hopefully the long-awaited spreadsheet *Schema 2*.

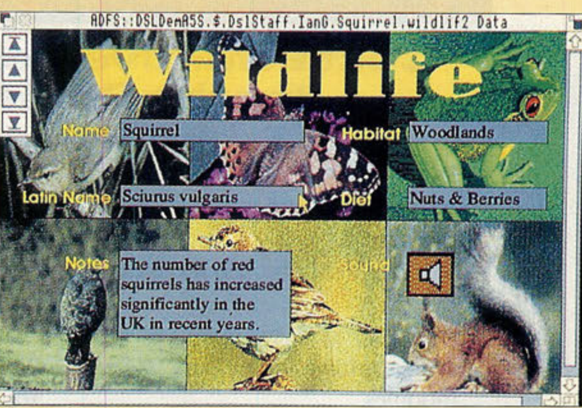
COLTON SOFTWARE (74)

From the company who brought you *Pipedream*, things will be going whizz-bang! on the Colton Software stand with the launch of *FireWorkz*, the new hybrid application produced from the *Wordz* word processor and *Resultz* spreadsheet.

COMPUTER CONCEPTS (67/68)

New versions of *Impression* and *Impression Junior*, to be called *Impression Publisher* and *Style* respectively, head a long list of new products from CC. These include the *AudioWorks* sound editor, *WordWorks* dictionary and thesaurus plus CD-Rom versions of *ArtWorks*, complete with masses of clip art. Another attraction will be the new Canon BJC-600 four-colour CYMK printer with *TurboDriver* support. CC will also have partner firm Wild Vision on the stand showing new multi-media hardware.





CUMANA (41A)

Besides the usual Cumana products like the EMU interface system, network solutions and multimedia software, the spotlight will be focussed on Cumana's new low cost CD-Rom systems, starting at £299.



DIGITAL SERVICES (17)

Digital Services has a number of new products at the show. Version 2 of the popular *Squirrel* database will be featured, plus a new Ethernet networking card. Also look out for *Armlock*, a password-based hard disc security system which doesn't need drive partitioning and can protect CMOS Ram data.

ExpLAN (116)

From ExpLAN at the show comes *Architech*, a development of the well-known *Tabs* 3D modelling system which now has fast colour and texture mapping. Complementing this is *Spex*, another three-dimensional modelling software package.



ICON TECHNOLOGY (108)

New versions of *StartWrite*, *Easi-Writer* and *Tech-Writer* will be the centre of attention on Icon's stand. All now have the trendy Risc OS 3D look plus improvements like drag-and-drop editing. Acorn Pocket Books are also to be given away as competition prizes.

I-CUBED (91)

Ethernet is the name of the game at I-Cubed. A complete range of AUN-compatible Ethernet solutions is offered by I-Cubed and the show will see the debut of 300 metre versions of its Ethernet cards. Several I-Cubed dealers at the show are expected to be linked up via Ethernet.

IFEL (92)

Memory and fast Arm3 upgrades will be the main attraction. The company produces both 25MHz Arm3 upgrades with an FPA option and a 35MHz Arm3.

Show offers will be available and there is a chance that some as-yet unnamed new products could be previewed too.

There are several highlights on the Computer Concepts stand including Impression Professional (left) and the BJC-600 printer (shown above).

The latest version of the Squirrel database from Digital Services (top) is on stand 17 and impressive 3D modelling software (second from top) can be tried on the Explan stand

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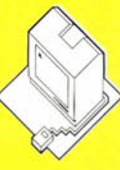
As if that isn't enough we've also added 'drag and drop' to simplify editing. Simply select the text or picture you want to move and drag it to its new position in your document.

There's more...

StartWrite can speak. Helpful for children and fun to use. And now you can create footnotes and add sub- and super-scripts to EasiWriter as well as TechWriter documents.

For full details simply contact Mike Glover on 0533 546225.





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IRLAM (121)

Two new multimedia products will be the highlight of Irlam Instruments' stand. A Replay Plus version of the Acorn Replay DIY kit will be at the show offering a number of improved features. Secondly there is a new pro-quality 16-bit DAT and CD-quality sound sampler card featuring a DSP chip for real time effects and compression.

KODAK (79)

The Photo CD imaging standard is shown for the first time on the Kodak stand which puts ordinary 35mm slides and prints on CD-Rom in high resolution form. Special deals on the stand.



LOOK SYSTEMS (23)

The choice of Risc OS fonts has never been so comprehensive. The arrival of yet another new range of fonts, especially as they are priced so competitively, is well worth a look.

LONGMAN LOGOTRON (72)

Longman Logotron will be showing the latest version of the *Eureka* spreadsheet along with its wide range of educational titles: *Talking Pendown*, for example.

Sure to attract attention will be a new *Landmarks* module which explores the world of the Tudors and the Stuarts back in the 17th century.

S-Base 2 will be previewed at the show and there will also be a new version of *Pinpoint*.

For bargain hunters, Longman Logotron says that 20% discounts on orders taken at the show will be available.

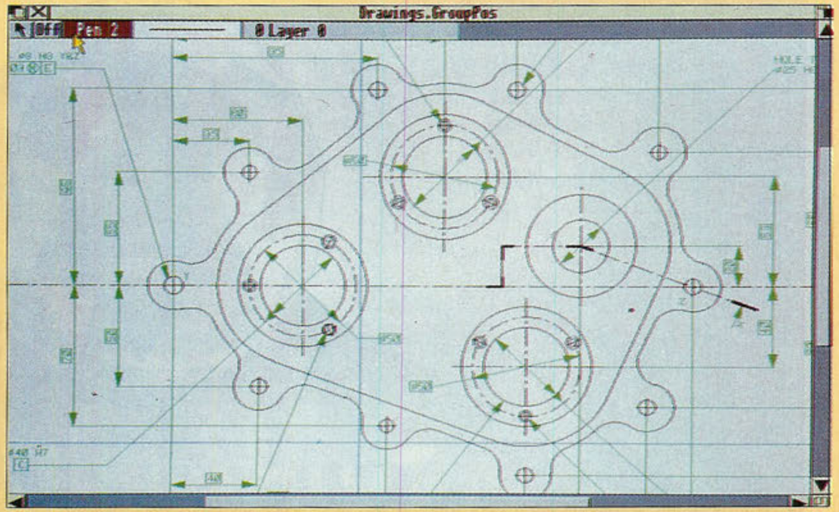
MATT BLACK (56a)

Clip art of all shapes and sizes is Matt Black's speciality. Look out for the latest collections of photographic images and Photo CD developments too.



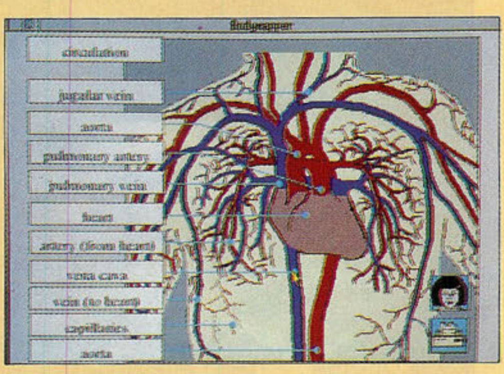
MINERVA (42)

All of the familiar titles: *CADet*, the *Prime* series and so on, will be at the show as well as some new ones. *Prime Mover* is a new sprite animation package featuring a simple front end and the Sound Track *Keyboard Trainer* is a fun-to-use Midi-based music keyboard trainer aimed at novices.



OAK (81)

Oak Solutions is a big player in the schools networking market, but at Acorn World the emphasis will be on educational software and consumer products. *Rephorm*, the new morphing package, will be the main Oak attraction, alongside usual Oak products like Oak Recorder II and *Genesis Plus*.



Kodak is sure to be a major attraction with the launch of Photo CD shown on the left.

Matt Black (top) is offering a range of clip art including some in CD format.

For CAD users, Cadet (second from top) offers an educational perspective.

Finally, directly above, Oak will be showing popular packages such as Genesis Plus alongside its newer releases.

NCS (48)

Norwich Computer Services will be at the show with a new pocket sized removable Syquest hard drive system, plus various other software and and hardware promotions.

PANDA DISCS (59)

Crossword fans shouldn't miss out stand 59, which is where they will find *XWord*, a comprehensive Risc OS crossword solver, compiler and designer package.

PEN AND THINK (107)

This is the family-run educational software house based in Torquay. Programmers John and Chris are still teaching in schools, so they have a unique insight into the needs of teachers and students alike.

New for the show will be a 'pro' version of Pen and Think's Schools database system.

PINEAPPLE (40)

Colour digitisers and expansion adapter cards will be found on the Pineapple stand along with anti-virus software like *Killer* and *VProtect*.

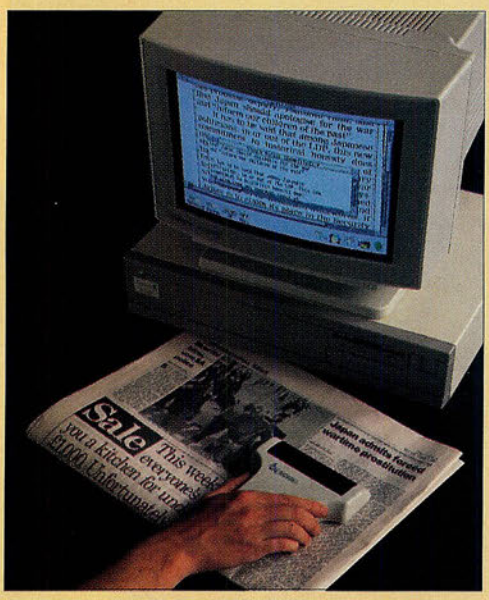
RHEINGOLD ENTERPRISES (59)

Rheingold's two main products are the *TextAid* text-processing utility and *Vigil*, which is a multi-tasking monitor/debugger for programmers. The show will be Vigil's public debut.

RISC DEVELOPMENTS (77a)

Risc Developments will be showing a new high density floppy disc upgrade for older Archimedes models. There will also be a new tape streamer which connects via the parallel port.

On the software side you can see the *Sleuth* optical character recognition system, a new version of *Ovation* DTP and an updated *Hearsay II* comms package. Debuting at the show will be *Easy C* priced at £49.



SHERSTON SOFTWARE (35)

Sherston has a range of well-known educational titles on show, as well as some new releases such as the *Crystal Maze*.

SJ RESEARCH (78/123)

Schools looking for an inexpensive and reliable networking/hard disc sharing system will be pleased to hear that SJ Research expects its promised Nexus Junior system will be ready and finished for the show.

Nexus Junior offers a simple four-station network for just £399.

SOFTWARE BARGAINS (6)

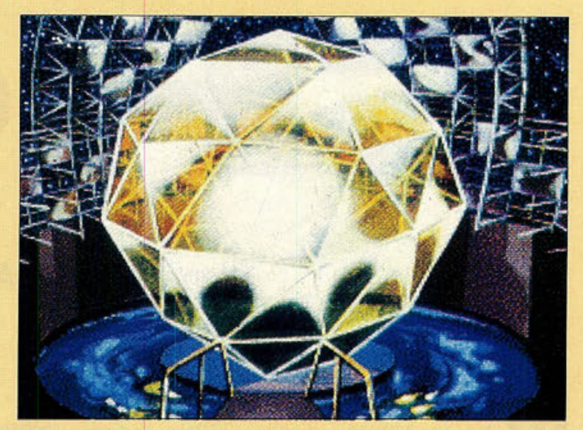
In fact you will probably see a different banner on Stand 6, namely Vantage One Direct – the new name which replaces Software Bargains and Mercury Games. Part of the MicroPower group, expect to find some keen software pricing.

SPACETECH (38)

Spacetech will be showing its collection of awe-inspiring software which illustrates the night sky and the objects lurking up there.

STATE MACHINE (93)

For the latest developments in the G-series graphics accelerator cards, head for stand 93. Undoubtedly you will find lots of very big monitors running dazzling demonstrations, including full-speed *Replay* movies in higher resolutions and with more colours than you might be used to.



STALLION SOFTWARE (56A)

An updated version of the *Almanac* desktop diary/organiser system will be the highlight at Stallion software's stand. *Almanac 2* has a new up-to-date Risc OS look and better import/export facilities. Other new products at the show will include new language versions of the *Lexicon* language learning tool and *Assembler Help* for Arm coders.

EFF (85)

The Electronic Font Foundry offers what is probably the widest range of Risc OS outline fonts. Both original Risc OS 2 and revised Risc OS 3 fonts will be available, along with some special show deals.

THE SCIENCE MUSEUM (95)

The Science Museum uses around 40 Beebs and ten Archimedes for information displays and control purposes. At Acorn World visitors will probably get a look at the Archimedes-driven Science Box contemporary science interactive display system which uses touch screens to reveal the secrets of DNA fingerprinting, the ozone hole and nanotechnology, If you see a scale model airship floating around the show, it took off from the Science Museum stand!

THE SERIAL PORT (52)

The Serial Port has taken over the Arxe Systems SCSI and HD floppy interfaces so these will be spotlighted on the stand. All the usual comms solutions – modems, high speed serial cards and *ARCterm 7* – will be there. The *Sorcerer* source code editing package is now in the catalogue and an interesting DSP controller card will be shown.

WILD VISION (67/68)

Wild Vision, Computer Concepts' partner company specialising in hardware design and production, will have three new products. Eagle M2 is a new multimedia card which is Replay compatible and offers wide-ranging audio compatibility as well as a video digitising function and is designed to with new CC developments like *AudioWorks*. Other new products are the Lark 16-bit sound sampler, bundled with *AudioWorks* and finally the Chroma500 digital genlock card. Special show prices are promised.

WYDDFA SOFTWARE (94)

Talking Stories will be the latest product: a story-telling application. Also from Wyddfa are The *Spoken Word* and *Talking Pictures*. Welsh versions are available too.



Sleuth (shown on the left) is at present the leading optical recognition package, on the Risc Developments stand.

Leading education supplier, Sherston Software, will have a new release, the Crystal Maze on its stand (shown above top).

The Science Museum (above) should add a touch of diversity to the show, with its innovative display techniques using Acorn technology.

Get your show guide at the Acorn World Show entrance for a complete up to date show plan.

SHOW

Step inside the Acorn World games arcade for an exciting games line-up

We've got Vikings, demons, killers, racing cars, space ships, a sorcerer called Simon and even a smooth-mannered goldfish with a Walther PPK and a mission. And that's only the new stuff.

These are exciting times in the Acorn games world. More and more games from the cream of the 16-bit scene are being ported across to 32-bit format and at this show several of the best are being launched, including *Heimdall* and *James Pond 2: Robocod.*

Meanwhile, companies like The Fourth Dimension and Matt Black continue to produce good value games designed exclusively for the Acorn range. You can play all the latest releases and demos of games that aren't completed yet.

Laser Show

The centrepiece of the show will be a huge, completely-enclosed space ship. Inside, a battery of Acorn computers will be running a selection of the best games for punters to play test and the whole craft is to be filled with a mindblowing light show, generated by a full-colour, water-cooled, full tilt, computer-controlled laser. (See the Moxon interview for the inside story).You won't be able to miss this one – if the space ship doesn't blow your mind, the lasers will and if you survive both, you can enter Acorn's games competition. Check out the space ship for details.



Sam Greenhill

THE FOURTH DIMENSION

NEW ON THIS STAND
STUNT RACER 2000
DEMON'S LAIR
DUNGEON

If *Killer* isn't the most popular thing on this stand then I'm a blue banana and I'll announce it so (though, obviously I'd cop out and whisper it softly if it came to the crunch.) *Killer* is the totally wired part of Fourth Dimension's latest hit, *Stunt Racer 2000*, where two players drive racing cars around the most manic track in the history the world. Stunt isn't the word, you'd need to be Mad Max on acid to take this track seriously. Fortunately, you needn't take it that seriously; Fourth Dimension will be linking two Acorns together on the stand for punters to burn up the *Killer* track side by side and everyone will watch as they start confidently along an innocent-looking straight road, then wonder where the hell it went. Onlookers can then laugh as the poor devils realise – too late – that they're half way round a very thin, very tall, loop-the-loop... there's a jump at the bottom and nothing they can do about it!

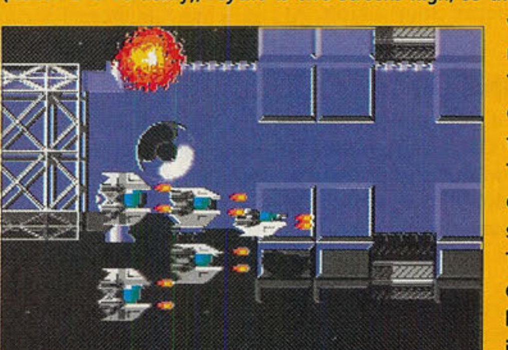
Other parts of the *Killer* complex just get so utterly weird that you begin to wonder if you AREN'T taking it too seriously. Also, look out for a surprise sequel to the popular isometric arcade adventure, *Pandora's Box.*



TBA SOFTWARE

NEW ON THIS STAND
PSYCHO SQUADRON
NINTENDO PRO-PAD

There's nothing 'to be announced' about this one: here's the lowdown... TBA, still revelling in the success of its shoot-em-up maze game, *Axis*, which stormed the Acorn games world last spring, is all set to release *Psycho Squadron* at the World of Acorn show. Although it is of the horizontally-scrolling variety (*Xenon 2* is vertically), *Psycho* is two screens high, so there is room for vertical manoeuvre. The usual array of power-ups avail themselves for collection but TBA deliberately hasn't gone over the top with bolt-ons, so skill is still required! There are, however, extra 'wingpersons', bonus rounds plus a training programme for new pilots.



GAMES

with an amazing lightshow and fifteen new releases to try out

GAMESWARE

Although new games label Gamesware was officially launched at the Live 93 show last month, the World of Acorn show will be its first exposure to most Acorn users and the first chance to get your mitts on the classic shoot-em-up *Xenon 2*. But Gamesware is going for it in a big way and will have no less than seven new products on the stand.

The conversion of *James Pond 2: RoboCod* will bring us more fishy goings-on in the under(water)world as secret agent Pond splashes and dashes his way through 85 watery levels, rearranging nasties' faces and shakin' not stirrin' the end-of-level baddies. Gamesware has also rehashed two average games from recently-collapsed games house, Software 42 – *Fred* and *Cycloids* (hopefully, they'll be made more exciting) and rewritten the cheating utility *Games Wizard*, to make it easier to use. Also, watch out for the demo of *Simon the Sorcerer*, the first, fully, funny interactive arcade-adventure game.

NEW ON THIS STAND
SIMON THE SORCERER
POWER PAD • CYCLOIDS
JAMES POND 2 • FRED
XENON 2 • ROBOCOD
GAMES WIZARD

KRISALIS

NEW ON THIS STAND
HEIMDALL

Very hairy men with swords, horned hats and pints of Skol, all looking for a hammer belonging to some bloke called Thor. Why? Many reasons: because Thor lost it, because that's the sort of thing you did if you were a Viking and because when Thor says 'find my hammer', you find it. So off set you, as Viking warrior extraordinaire, to search for it and also to find Odin's sword and Frey's spear. You see what happens? One muscle-bound twerp gets you to look for his hammer and suddenly all the other silly-named Vikings get wind of it and conveniently lose their swords and spears.

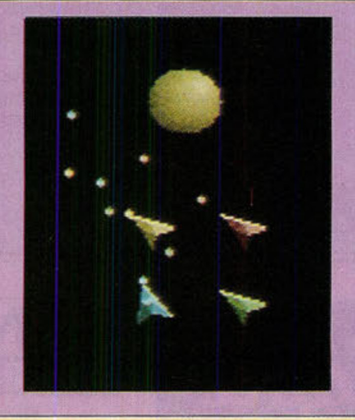
Heimdall is the only new game Krisalis has at the show, because *Lemmings 2* and *Powermonger*, sadly won't be ready in time.



MATT BLACK

If you're one of those people that didn't manage to get the mortgage details sorted with the bank manager in time for the show, then Matt Black and its bundle of budget games might come as a great relief to you... and your wallet.

Matt Black describes its latest budget release (it'll set you back a tenner) charmingly titled *Blood Sport*, as 'a brand new, action packed martial arts game', for one or two players. The mission ain't complicated: just beat the hell out of all and sundry to win. However, you will soon learn that the bad guys each have 'a unique fighting style and a special power', in other words they've got the edge on you when it comes to equipment and training.



To get round this: just beat the hell out of them. Check it out on Matt Black's stand.

NEW ON THIS STAND
BLOOD SPORT

Also, don't miss *Spheres of Chaos*, the best game Matt Black ever produced. It's an addictive blast-em-up space game that's dead simple and simple to be dead. It is also the only game that up to four can play at once.

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Walk around THE WORLD

Acorn World will be an educational show, but it could be an education of a different type if you turn up unprepared. Here's your teachers' guide to survival

Precision planning, that's what you need to tackle an event like Acorn World. Although it may be smaller than some shows, the difference is that every single stand has something to interest the Acorn education enthusiast, so time spent poring over the *Acorn User* preview at home will be more than repaid when you finally arrive at Wembley.

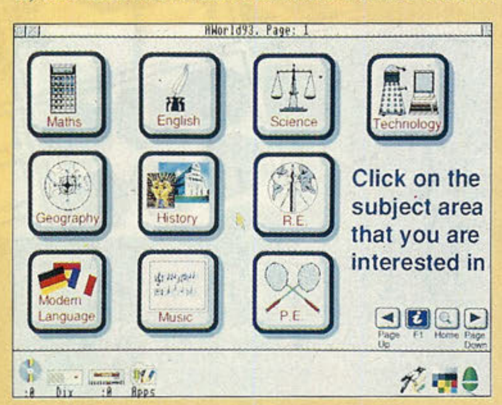
There is a lot to see, so the first thing to do is establish where the catering and toilet facilities are. Compare their location with the ones marked on the map in the show guide and this will help with your general orientation.

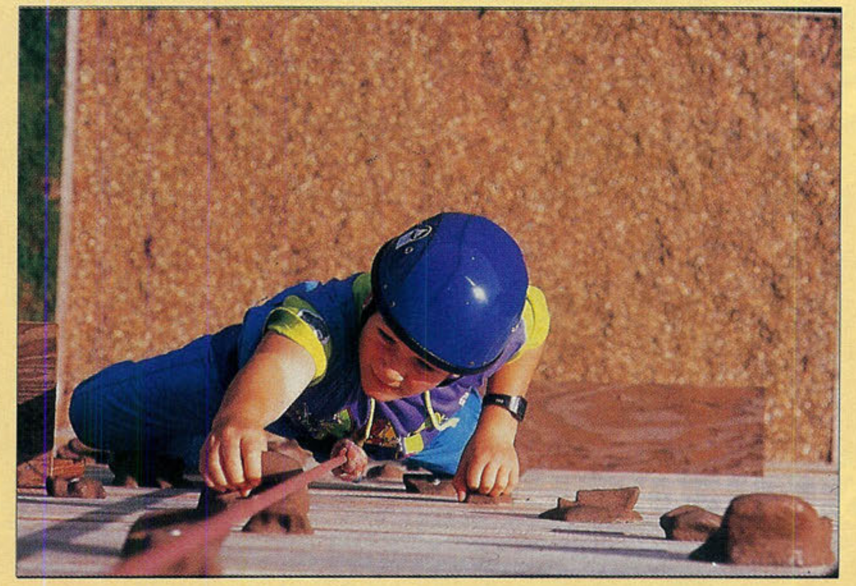
My personal approach is not to start at A and work my way through to Z. I prefer to reorganise the exhibitors under my own headings and then zigzag backwards and forward, ticking off one group of stands before moving on to another.

So, for example, because I am interested in creating my own multimedia applications this will be one of my trails. Start at Oak Solutions (stand 81) to check out *Genesis Plus*. Then I'll head off to Irlam (stand 121) to see the latest version of Replay DIY, finishing up at Kodak (stand 79) for an in-depth look at Photo CD.

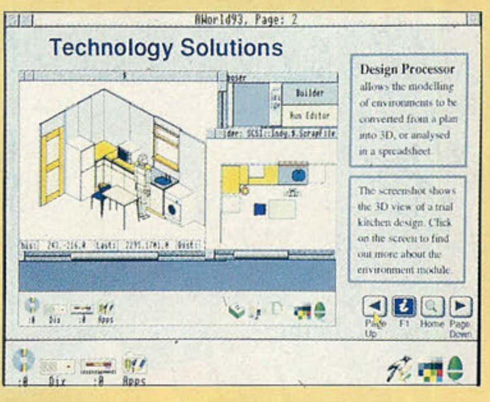
Desktop publishing is another of my pet subjects, so when I'm in DTP mode I'll be popping in to see Computer Concepts (stand 67) to see *Impression Style*, and then on to Risc Developments (stand 77a) for the latest version of *Ovation*. Acorn also has an applications area dedicated to DTP, so that will be another port of call. You get the idea anyway.

Now some may say that this approach is particularly heavy on shoe leather and will quickly deplete energy levels to the point of virtual collapse, but I maintain that it allows me to focus on one specific topic, get to grips with it, and then move on. Otherwise I find I tend to wander around aimlessly and then have nothing to report to the deputy head on Monday morning.





Where energy can be conserved, however, is in what you carry around with you. Travel light and just say no to the proffered literature is my advice. If you doubt your ability to repulse the cohorts of marketing hired hands, the night before your visit to the show, try the following routine. Stand in front of the mirror and practise useful phrases such as 'Thank you, I've already got one of those' and 'If anyone else tries to stuff a bit of paper into my hand I'm going to kick them'. I'm sure you can come up with a few of your own.



It's cross-curricular rather than related to a particular subject, but before you wilt, do pay a visit to the education area. Here you will find interactive displays on IT for the primary, secondary and special needs sectors. It is promised that you will be able to interrogate the technology with queries such as 'Where can I find Key Stage 1 spelling programs?' or 'Who can give me advice on touchscreens?'

Acorn World provides a perfect opportunity to see for yourself all those products your colleagues have raved over or you've read. Enjoy it, but make sure you make the most of it.

It might not look educational, but in the education area you'll be able to see some petrified pupils abseil down a wall, while their vital signs are measured by an Acorn machine. And as if that's not interesting enough, you can ask the interactive computer displays all sorts of questions about IT.

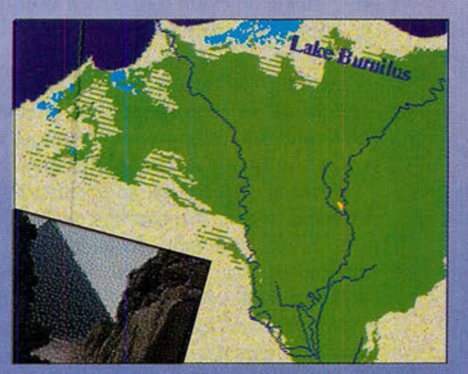
REVELATION ImagePro



Revelation ImagePro contains just about every feature that you could imagine to aid in the preparation of pictures and enhancement of existing images.

At an amateur or professional level, ImagePro suits the needs of both.

Peter Clements, Archimedes World

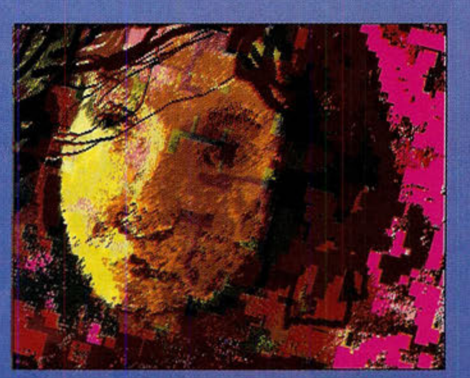


If you want this kind of package, then ImagePro is the one to buy... It's a superbly professional application.

Richard Hallas, RISC User

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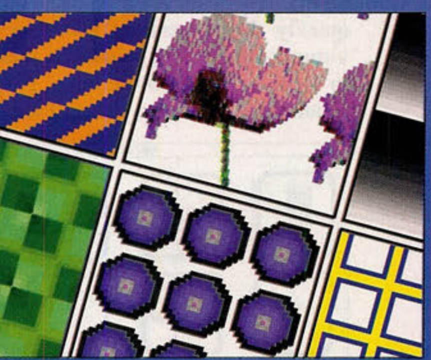
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ScanLight Video	WildVision
Stunt Racer 2000	4th Dimension
Crystal Maze	Sherston
Spoken Word	Wyddfa
Word Bank	Topologika
Zool	Gremlin

You might own the most powerful home computer the world has ever seen, but have you the add-ons to match? Enter the phenomenal *Acorn User* show competition, and you can win a fantastic collection to turn your machine into the most powerful piece of kit since Chernobyl.

Every category under the sun is covered. For graphics fans we've got everything you need to become the next Picasso: *Animator*, *Artworks*, *CADet*, *KidPix*, *Morpheus*, and *ProArtisan 2*.

On education we've *Noddy's Playtime*, *The Spoken Word* and *Word Bank*, and you can look to the skies with *Orrery*. DTP and word processing is covered by *Ovation*, *Fireworkz*, *EasiWriter*, and £200 worth of outline fonts. Plus mega-games *Axis*, *Stunt Racer 2000*, *Crystal Maze*, *Zool* and *Battle Chess*.

Expanding your machine is now no longer a problem, with Simtec's Arm3 upgrade complete with fitted FPA. For games players there's a ProPad joypad, and for graphics users there's a Replay DIY card and Wild Vision's ScanLight Video card. Finally on the hardware front, there's Morley's new Revolution CD-Rom drive, ready for PhotoCD.

Musical boffs are catered for with *Notate*, and *Oak Recorder 2*, and if comms is your thing, get connected with *ArcTerm 7*. On the business side we have the *Event* diary and the *Prophet* accounting package, and if you're worried about virus attack (aren't we all), there's a year's subscription to Pineapple's anti-virus scheme.

Entry details

If you visit the *Acorn User* stand at the show you will see these goodies piled up. So how can you get your hands on them? Simple: just become a regular reader of *Acorn User*.

The competition is open to anyone who takes out or renews a subscription during the three days of the show.

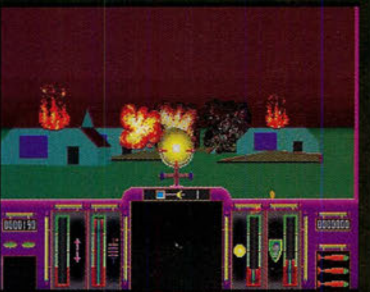
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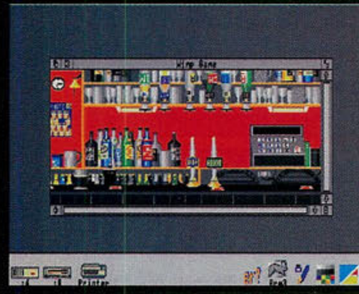
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GAME SHOW

You wait patiently for eons of time, tapping your feet, watching your hair grow, and then three come along at once. Sound familiar? No, not the number 19 bus this time, but joypads, those cool relations to joysticks, which have suddenly mushroomed all over the Acorn games scene.

Here is a quick round up of the three rivals from CU, TBA and Gamesware. Each has six fire buttons and a four-direction control pad and plugs into the printer port.

All three companies are toying with the idea of 'executive' versions that wouldn't leave your poor old printer feeling disconnected. Gamesware is offering a free game with every sale of its Power Pad.

Meanwhile new software house Gamesware, that brought *Xenon 2* to the Acorn format and has *Robocod* floating in the wings, is growing fast and *Simon the Sorcerer* is the next high-powered release. See our preview of *RoboCod* below and take a peek at work-in progress on *Simon the Sorcerer* on page 71.

Sam Greenhill

Powermonger preview



How would you like to be king of a large desert island populated by a few hundred natives? In *Powermonger*, another Krisalis conversion for Christmas, there's only one thing stopping you: the natives don't appreciate your upwardly mobile aspirations. The task in hand, then, is to beat some sense into these people by raiding towns and villages with the small band of loyal soldiers you were marooned with.

Once enough people have seen the wonder of your ways they make you king of the island. Challenge over with, you can then move on to the next island. Sounds simple, doesn't it, but *Powermonger* is actually incredibly deep and complex. It ain't all violence; you can watch your people grow crops, tend cattle, herd sheep and all sorts, or set your village the task of inventing a new weapon. They'll need raw materials, etc, etc, and before you know it, being king is not as easy as you thought. I can't wait for the conversion.

Cheats

The Last Ninja

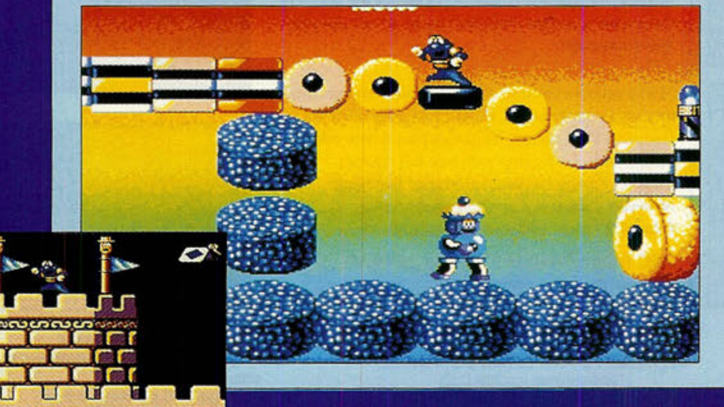
There's a built-in cheat for this classic oriental beat-em-up that can be activated by pausing the game and holding down the keys LV426, according to Paul Clinton of Northallerton in Yorkshire. This done, try using the function keys F5-F9 and F11 while paused and F10 and F12 during the game, for a variety of cheats and utilities. (Avoid F8 if you get stuck – this saves a screen to disc.) Thanks Paul.

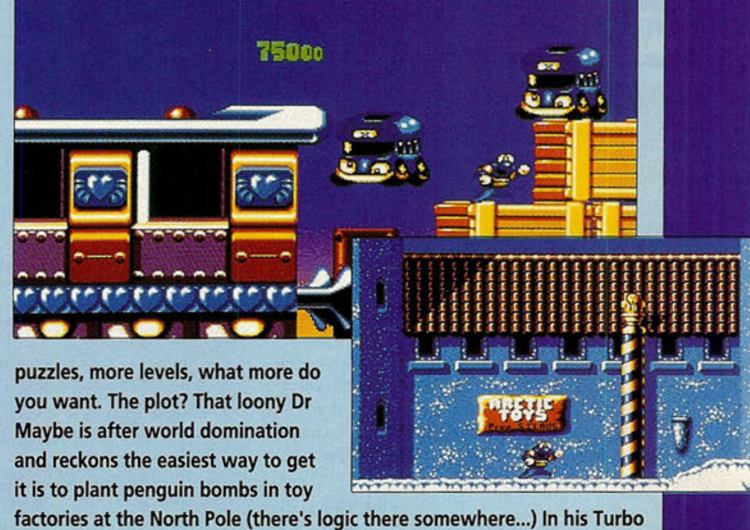
Ego

The manic lizard puzzle game *Ego*, from Superior, has a cheat mode too and we know of it thanks to a man from Bedford called The Count. Try BLACKCAT to give Repton 10 lives, a peak at the final picture and a level-skip, activated by Ctrl-C.

Part fish, part 2

By the time this goes to press, the latest conversion from Gamesware, *RoboCod*, will be finished and the intrepid underwater spy, James Pond, eager to get cracking on the watery bad guys. We had a sneak peak at a nearly complete version and it's looking good. So what's it got that the original *James Pond* never had? More colours, more puzzles, more levels, what more do you want. The plot? That loony Dr Maybe is after world domination and reckons the easiest way to get it is to plant penguin bombs in toy factories at the North Pole (there's logic there somewhere...) In his Turbo Tub, agent Pond swims off on his most dangerous mission yet: to save the toys. *RoboCod* has over 2500 screens across eight levels.





STUNT RACER 2000

Fourth Dimension
Tel: (0742) 700661
Machines: All 32-Bit (2 Mb version has extra music)
Price: £34.95

Most people who've ever been into a decent arcade will have seen a 3D car simulation called *Hard Drivin'*. *Stunt Racer 2000* is basically *Hard Drivin'* for the Arc. It's not, as the box says, 'A game ahead of its time!' but a game about five years behind versions of *Hard Drivin'* on other machines.

All the features which made it so popular originally are here in abundance (although I do miss the cow which mooed in surprise when you slammed into it) and just like the original, this is the same heady mix of simulation and no-holds-barred racing.

The idea is straightforward: burn round a few circuits in a respectable time to qualify, then take your position at the start for a multi-lap race. The best is with two players when you both make the same race. You are awarded a cash bonus for qualifying in pole position or coming first, second or third in a race and you then use this money to improve your car.

Looks like Andrea de Cesaris could pick up a few ideas from these guys

A wide range of menu options allows you to customise the game to your taste; for example you can set the level of graphical detail in cars and surroundings to lower levels, trading this off for a higher frame-rate. This is a good idea, and very useful on Arm2 machines, even if it does mean that the cars turn into wedges of virtual cheese.

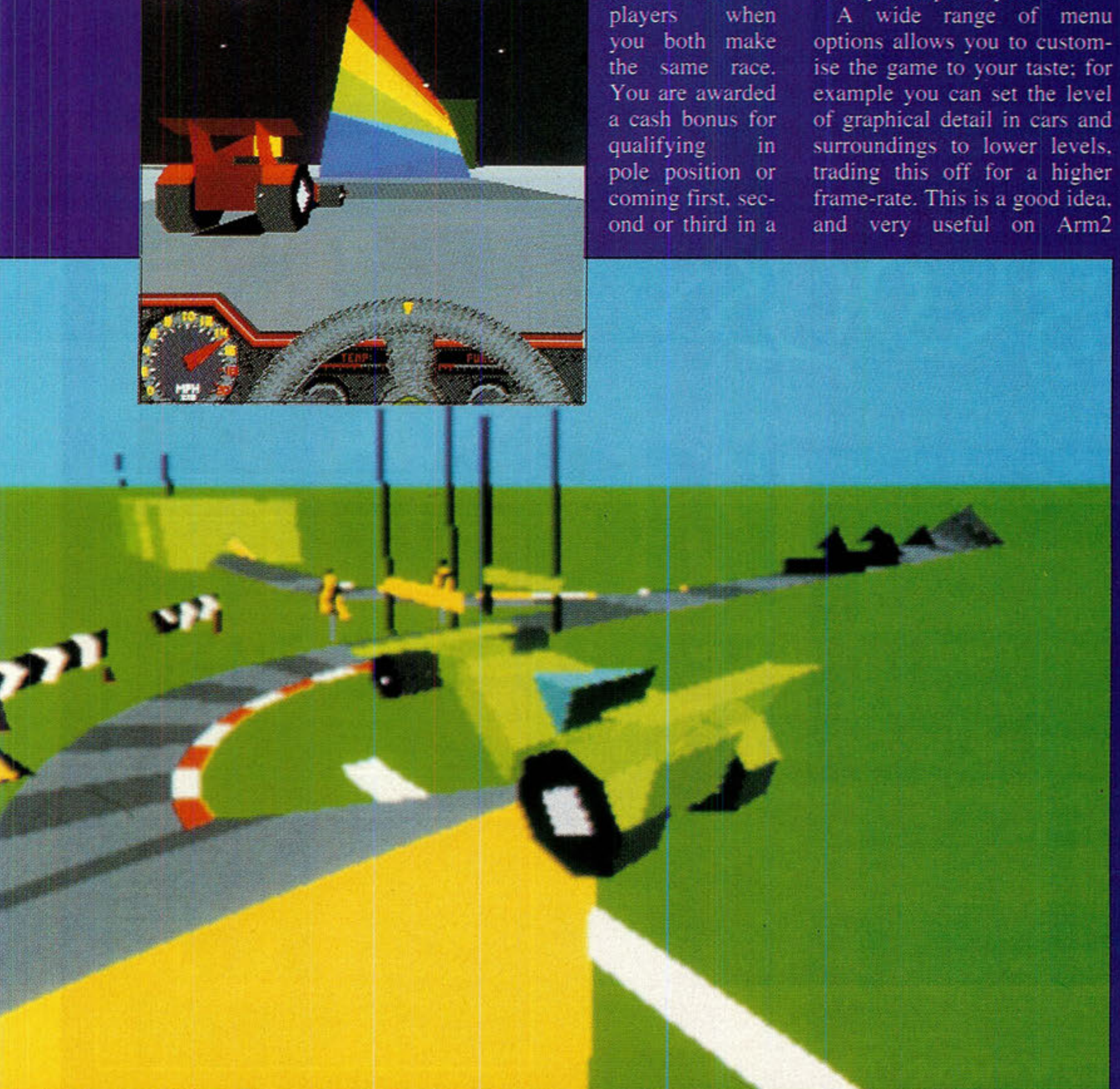
In the garage you can tinker with gear ratios (all gearboxes are automatic) power curves, engine tuning, tyre grip and so on, providing your car with whatever you can afford. Nitros or Turboboosts can be fitted to provide that little something extra when you're in a tight corner. Qualifying is much easier than racing (though still not easy) and if you don't qualify in pole, you can buy 'masonic help' to improve your placing, or even pay criminals to sabotage a fellow competitor's car.

The game comes with 17 tracks, including two 'Killer' circuits. These consist of a number of areas, linked by teleport gates on which two players can burn rubber while trying to smash each other off cliffs, into walls, over ramps and so on.

The second player can either be on the same machine as player one and displayed using a split screen, or connected from another machine via a serial link cable (not included). This is a rather excellent feature, allowing each of the players a full screen view while competing against a friend.

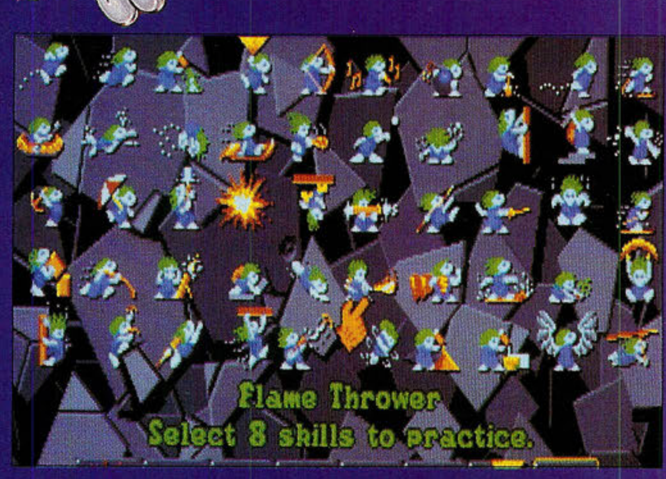
I can find absolutely nothing wrong with this game, and would advise you to purchase a copy immediately.

Mat Tizard



Drive your competitors off cliffs, into walls and sabotage their cars. Sounds like my drive to work

LEMMINGS 2 TRIBES



Supplier: Krisalis
Tel: (0709) 372290
Price: to be announced

They dig, they build ramps, they float around in the breeze – they also try to pop their little corks at the drop of a joystick. They're lemmings, and they're back.

Lemmings was a ladders-and-ledges game with a difference. That clever, subtly-designed graphic background that we see in the *Marios*, *Zool* or *Sonic* was subverted by the rambling rodents. They proceeded to dig holes in it, bash their way through it, or explode themselves leaving large craters.

Lemmings 2 is more of the same, in spades. You know you've got a job on your hands when you hack your way through the elaborate packaging and find that, this time, the game needs three floppies. You also get a brief, but cute, 72-page novelette that gives you the background on the game. Unless you are under five, dispose of this and proceed to the game.

You will need the excellent and succinct instruction leaflet. This time, there isn't simply one lot of lemmings, but 12 – the tribes of the title, all with different and highly atmospheric scrolling backgrounds ranging through circus, space, Egyptian and some real oddities. Worse, while before you could give your lemmings any one of eight skills, this time you have no less than 52 possibilities available.

The old ones are all still there, but now you can get the inoffensive little critters to blow large lumps out of the landscape with bazookas and mortars, fire arrows or shoot lines, scoot around on jetpacks, hang gliders or magic carpets, shimmy, slide, ski, stack, scoop and a whole bunch of other stuff that doesn't start with 's'.

With all this, you need all the help you can get, and the game allows you to run through any of the 12 scenarios in practice mode.

It also – a welcome development for anyone bored with having to shuffle a mouse around the mat in double time – assigns the eight skills that are displayed on screen at any one time to the F1 to F8 keys, which saves a lot of flustering. Instead of passwords, this time we've got a very welcome disc load/save routine – always a sign that a game has come of age.

Play isn't just a matter of pointing at a lemming and giving it the requisite skill, either. Weapons like bazookas and arrows have to be aimed, and parts of the background can be manipulated. My favourite is the catapult from the medieval section that has to be precisely situated to lob a squeaking lemming to safety.

Traps are more various too, which really makes you want to play on; one of the charms of the original was discovering new ways in which the little tykes could be offed. This game, at least in the space section, starts with flame-throwing robots and goes on from there.

Quibbles? Very few. Perhaps the early levels are a little *too* simple, but saving to disc gets you past those. I miss the small-scale radar display we had in the original, too. And I could have done without that lousy novelette.

But... Nothing really. This is the logical outgrowth of *Lemmings 1*, more and better, and shows every sign of being the blockbuster its successor was. Outstanding.

Josef Koestler



Lemmings: still bent on myriad forms of self-destruction

SIMON THE SORCERER

Wow! This game is gonna be FUN! It's an 'animated graphic adventure', it's got brilliant, cartoon graphics and it's honestly, genuinely amusing. It stars a cocky cockney called Simon who likes magic tricks and wears a purple robe and a wizard's hat... over his Levi's 501s of course.

Simon the Sorcerer is being released on all formats (including Acorn) virtually simultaneously and the demo versions have been raved about as the best thing since the Lucasfilm hit 16-bit success, *Monkey Island 2*.

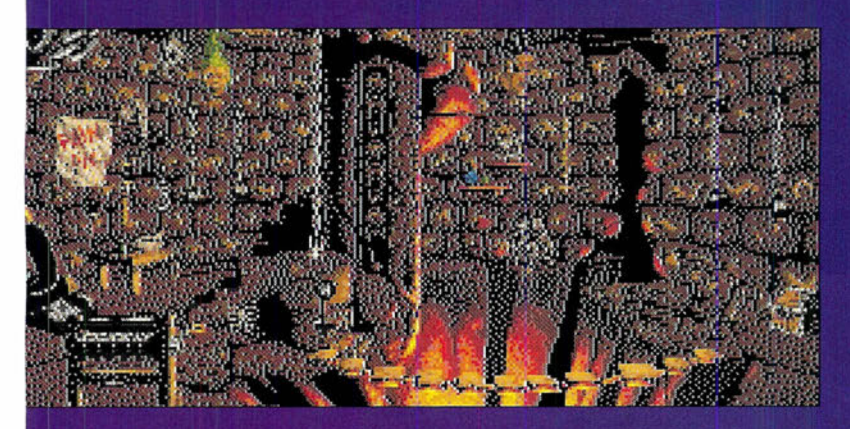
Simon finds himself in a weird and wonderful land of forests, swamps and swirling mist after he reads a few passages from a mysterious leather bound book, delivered, if you're interested, by a small puppy. Right, anyway, Simon the Sorcerer is just like a cartoon: half the time you just sit back and watch the stroppy lad mouthing off to characters he meets as he strides confidently along.

Rhyme time

Several nursery rhyme characters put in an appearance. At one bridge Simon meets the Three Goats Gruff. After the first goat is about to be caught out by the old troll-under-the-bridge gag, the troll confesses he's sick of the rhyme, can't bear to be shoved under the bridge any more and is starving hungry because he never gets any goats!



Cockney adventurer-cum-sorcerer Simon prepares to enter the Swampling's lair through the tree door . . .





Walk to, look at, open, move or consume . . . the choice is yours

Simon and the Swampling

Near a swamp Simon finds the cosy home of an ageing green reptile, called a 'Swampling'. Inside, a sizable cooking pot hangs over a roaring fire and the room has a homely glow. The harmless Swampling is slumped sadly over his wooden table when Simon knocks on the door but the prospect of a visitor livens him up no end.

'It's so nice to have person come to visit me,' the droopy Swampling bubbles, giving a little hop for joy.

'Er...' says Simon. You can imagine him thinking 'Uh oh, weirdo alert.'

'I is so pleased.'

At this point you get to choose one of four things Simon can reply to the Swampling. I chose: 'Well, actually... I think I've got the wrong house.'

Bad move! 'Wah!' the skinny green thing started crying. 'I thought you were my first birthday friend. I thought you'd come to play with me for my birthday.'

Now another choice: Simon can either make his excuses and walk out on the sobbing reptile (outside he exclaims: 'I feel a serious guilt trip coming on') or say soothing things to calm the fickle beast.

'Sit, sit, I bring special birthday stew!' a chirpy Swampling immediately cheers up and claps his hands.

'Er. . .'

'Friend! I give my friend special swamp stew! Ancient and secret recipe handed down from Swampling to Swampling for generations.'

'Hang on, I didn't agree to...'

'I very pleased with this batch' says the Swampling as he bounds over to serve Simon the gruesome green sludge.

Another choice: 'I can't eat that, I'll die', 'What's in this stuff?', 'I only just ate. Sorry', or 'OK. I'll give it a whirl'.

It turns into a nightmare for poor Simon. The flippin' Swampling steadfastly refuses to take no for an answer and bursts out crying if Simon tries to refuse the stew, politely or otherwise.

Is there no way out for Simon in this hell hole cottage? There might be. For instance, why not have a try of that innocent looking chest in the corner...

You control Simon with the mouse, pointing and clicking on the screen where you want him to walk and he keeps an inventory of items under his purple wizard's hat, including a false beard and a keg of beer! So what's so funny about it? Simon's dry wit, his distinctly British sense of humour.

He tries awfully hard to be polite but usually cannot resist the urge to be really lippy and gets himself into pointless rows with odd bods that he meets who, frankly, cannot resist rising to it.

Sam Greenhill





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● Electron, Plus 1, Pres Plus 3 with ADT Rom, 3.5in floppy drive, View and Lisp cartridges, two spare keyboards, software, manuals, books, magazines – £90 ono. Contact Mr D Jackson, Hebden Bridge. Telephone: (0422) 845327

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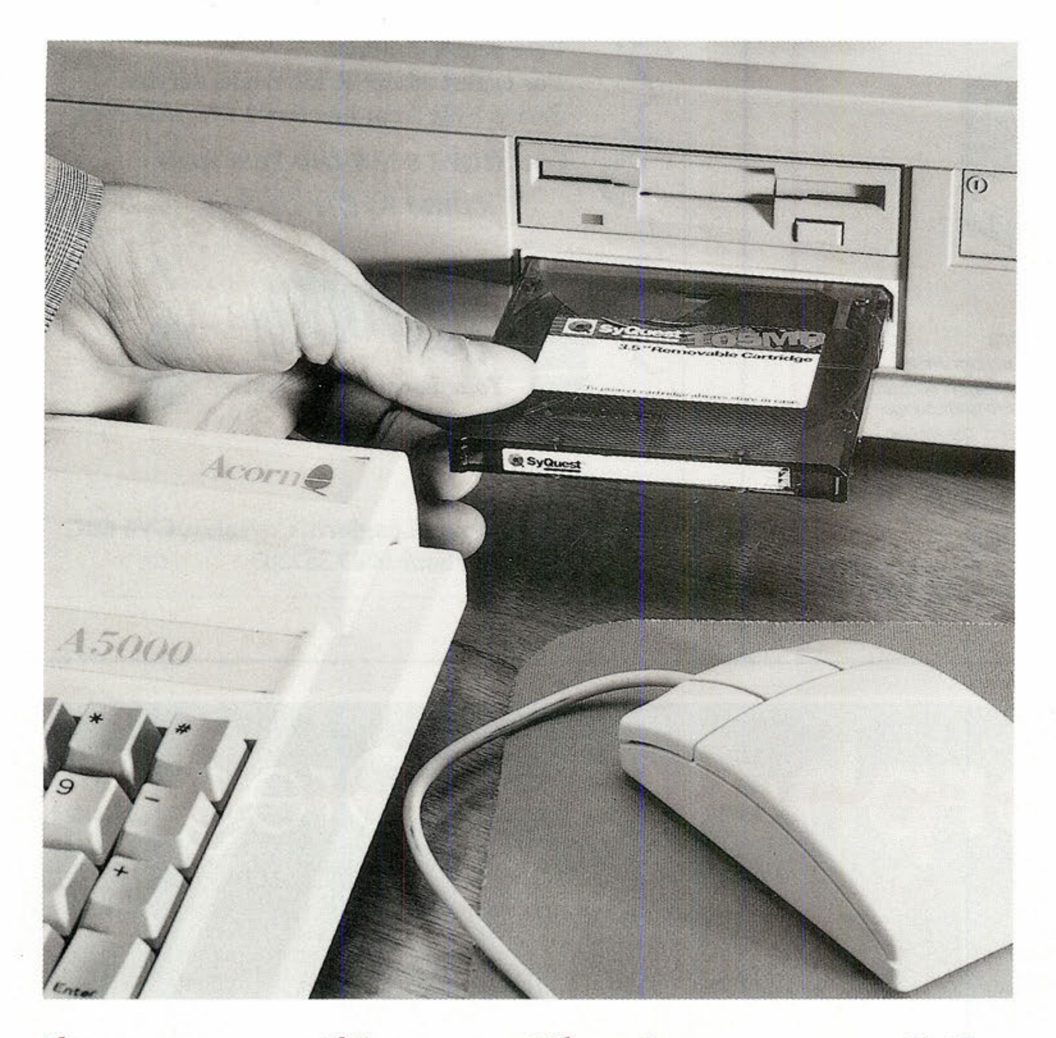
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● Wanted: 6502 tube - second processor required for BBC B. Anyone interested contact Mr A Mills, Rochdale. Telephone: (0706) 370020

● A3000, 2Mb Ram, colour monitor, manuals – £525, many Micro User magazines – offers. Contact Mrs J Howard, Sheffield. Tel: (0909) 550037

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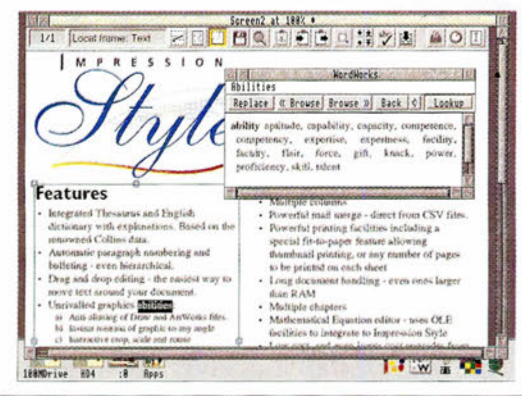


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All this costs only £99 + VAT (£116.32 incl.)

A full specification is available on request.

Where else in the world can you buy 10 to 12 man-years of development work for just £99 + VAT (£116.32 incl.)



Word Processing



Impression Publisher is a new high end desktop publishing package which has evolved from the most successful Archimedes software package, Impression II. Publisher incorporates all the new user friendly word processing abilities of Impression Style as well as some new and advanced page layout capabilities.

Computer Concepts is the first company to incorporate full colour separation capabilities directly into their programs. Together with with the new version of ArtWorks, this package offers full support, including separations, of 24bpp colour images and even 32-bit CMYK images, along with the ability to load TIFF files (even Mac, PC and CMYK variations). Also new is the use of OLE (Object Linking and Embedding) and the provision of full on-line interactive and hyper-text help.

Impression Publisher offers better support for typesetting - built in PostScript separation abilities with control over halftone screen type, crop marks, page bleed areas etc. It also offers auto tracking and kerning (RISC OS 3 fonts), and brightness and contrast control of graphics. It will even create a list of all the fonts used is your document.

Finally, Impression Publisher is the first Acorn DTP package to offer repelling, irregular shaped frames.

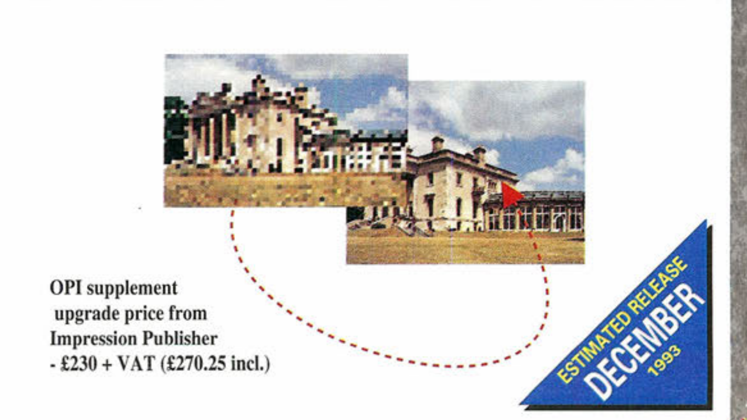
If you want the best page layout or document creation software, there is no alternative.



Special upgrades are available from Impression II - details are shown opposite. A full specification is available on request.
Impression Publisher - £169 + VAT (£198.57 inc)

OPI Supplement

For professional pre-press or publishing work this optional upgrade to Impression Publisher supports the Open Prepress Interface - a system for incorporating very high resolution full colour images without the need for huge hard discs or large amounts of memory. In addition the OPI supplement includes the ability to load EPS (encapsulated PostScript).



OPI supplement upgrade price from Impression Publisher - £230 + VAT (£270.25 incl.)

Desktop publishing for Acorn RISC computers

How Does OPI Work?

All you have to do is take your picture or negative along to a suitable imagesetting bureau where they will scan the picture at very high resolution, creating two versions of the image. One high resolution version remains at the bureau, usually stored on optical disc, and the other low resolution TIFF or EPS image is for you to take home and place in an Impression frame. You can treat this picture like any other graphic - cropping, rotating or scaling it as desired. When the page is output to a PostScript file, rather than storing the images, the OPI system just stores the names of the high resolution graphic files. This means the resulting PostScript file is usually very small and can easily fit on a single floppy disc. At the bureau their system substitutes the very high resolution images when it is typeset - resulting in professional magazine quality full colour pages - with none of the pain.



ScanLight Video 256

ScanLight Video 256 provides the ultimate image capture solution by combining the ScanLight 256 greyscale scanner and the GreyHawk fast greyscale video digitiser on a single expansion card.

By combining both scanning and digitising features on one card you can now have the best of both worlds. Scanners are ideal for capturing printed diagrams, pictures or photographs, while a video digitiser can be used to capture images from video sources such as video cameras or television. This single board solution saves not only money but also an expansion slot over the traditional two card solution.

Hardware

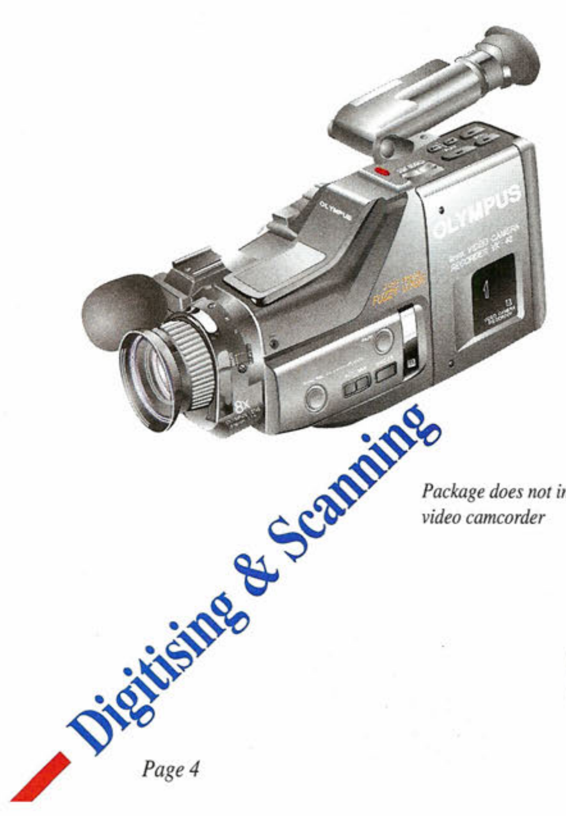
- Single width expansion board suitable for A300, 400, 500 and A5000 computers.
- Supplied with hand held greyscale scanner, 100 to 400 dpi resolution, 105mm scanning width.
- Straight edged scanning ruler to ensure straight and accurate scans.
- Monochrome, 16 grey level or 256 grey level image capture for photographic quality results.
- Composite video input to digitiser.
- 256K RAM framestore, 8-bit, 256 greyscale digitising ability, multiple resolution, real time capture.
- 768x288, 512x256 or 512x512 video capture resolution.

The package is supplied complete with interface board, scanner head, manuals and software. Min 2 MBytes RAM recommended.

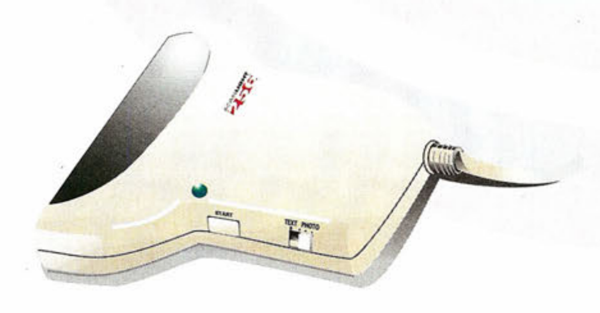
Software

- Ultra fast 'TakeOne' video preview application provides live video in a window on the desktop - up to 50 frames a second at quarter screen size.
- ScanLight image processing software provides a host of processing options for captured images; detailed brightness and contrast control; on the fly screen dithering for best quality images in 16 colour screen modes; image cropping, enhancing, sharpening options; instant rotation by any angle.
- Saves images as 256 grey level sprites - suitable for practically all RISC OS software.
- All software fully RISC OS compliant and fully RISC OS 2 and RISC OS 3 compatible.

ScanLight Video 256 - £220 + VAT (£258.50 incl.)
ScanLight 256 - £189 + VAT (£222.07 incl.)
GreyHawk greyscale digitiser £99 + VAT (£116.32 incl.)



Package does not include video camcorder



Available now from selected Acorn dealers, Wild Vision or direct from Computer Concepts. Direct order hotline 0442 63933. Upgrades are available from the GreyHawk and some ScanLight 256 products - details on request.



30 day Money Back Guarantee

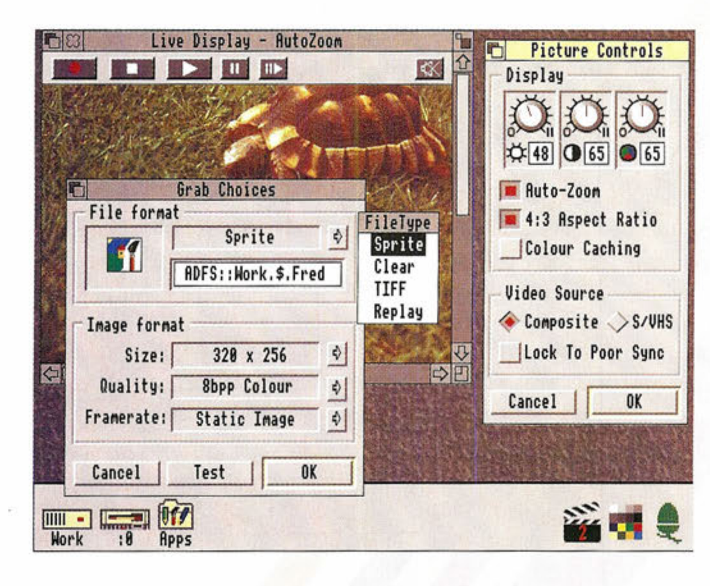
If, for any reason, you are not fully satisfied with ScanLight Video 256, we offer a 'no quibble' 30 day money back guarantee.

Eagle M2

MultiMedia expansion card and software



At Acorn World, Wild Vision are launching the Eagle M2, an expansion card which promises to be one of the most influential developments ever for the Acorn RISC computers.



MultiMedia is all about the manipulation by computer of three different types of media; still pictures, video and sound. The Eagle M2 is a multimedia expansion card for Acorn computers which allows you to capture still pictures, capture and replay video movies and capture and replay stereo sound.

The Eagle M2 is ideal for use in combination with interactive presentation software where sound, pictures and moving video all form part of the message. So, for example, in schools it could be a tool to enhance project work or it could be used to create imaginative and interesting training material.

The Eagle M2 is a Wild Vision/Computer Concepts co-production. Its main features are superior video digitising, both of still images and of Replay movies, stereo audio sampling and playback, and MIDI connection.

Thanks to some of the latest advances in digital television techniques, Wild Vision have been able to design a card which features real time hardware scaling and dithering, so that digitised images are clear right down to postage stamp size.

The full package includes four software applications. These are a video viewfinder and image capture utility, also enabling Replay movie generation and compression (the Acorn Replay software has been developed in association with Acorn Computers Ltd.); Acorn's !ARMovie for playing back the Replay movies you have created; AudioWorks, the new audio manipulation software from Computer Concepts; an application for controlling the mixer facility on the board. There are also several third party companies developing applications for the Eagle M2, including two revolutionary video related products from Eidos.

Eagle M2 is a single-width Archimedes expansion card, suitable for any 300, 400 or 500 series Archimedes with a backplane fitted, the A5000, or for external fitting on an A3000 (for which podule housing is recommended). 4 MBytes RAM and RISC OS 3.1 is required. For Replay movie capture an A5000 with at least 4 MBytes or an A540 is recommended and a hard disc required.

Key features:

- Real time greyscale digitising.
- Real time full colour digitising.
- 12 bit stereo audio sampling and playback at CD rate (44.1 KHz).
- MIDI (Acorn MIDI interface compatible).
- Real time video movie capture.
- !Replay movie compatible.
- S-VHS and composite video input.
- Line level audio in and out, in addition to audio out through the computer speaker or headphone socket.

The first practical multimedia expansion card for Acorn RISC computers!



Available from
Computer Concepts
and

Wild Vision Ltd.
15 Witney Way
Boldon Business Park
Boldon Colliery
Tyne & Wear
NE5 9PE
Tel.: 091 519 1455
Fax: 091 519 1929



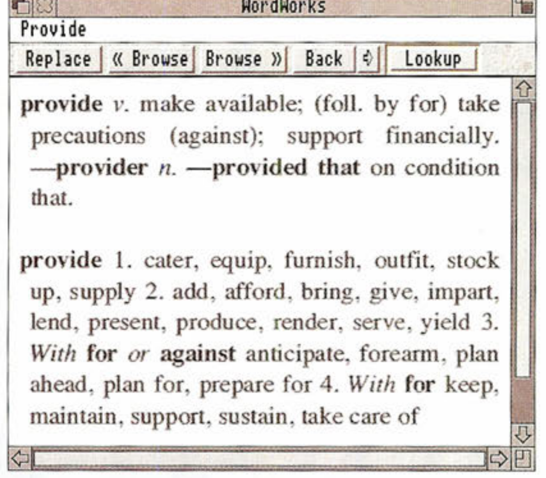
Full details and demonstrations will be given at the Acorn World Show. A more detailed specification is available on request.



Multi Media

Computer Concepts' long awaited electronic thesaurus and dictionary is now available.

WordWorks



This shows the WordWorks entry for the word 'provide'. The top part shows the dictionary entry and the lower part shows the thesaurus entry. You can show the thesaurus or dictionary entry, or both.

The wait was worth it since WordWorks now offers much more than any other thesaurus. This stand-alone application works with all word processors (although it is more integrated with Impression) and is the ideal assistant for all word processor users. WordWorks is unique in that it includes a complete English dictionary with explanations, and so it can be used not only for finding alternative words, but also for spell checking and finding the meaning of words.

Unlike the thesaurus data used in some other products on the Acorn computer (which use public domain dictionaries) WordWorks uses licensed thesaurus and dictionary data from Collins, so you can be sure the information is up-to-date, accurate and of the highest quality.

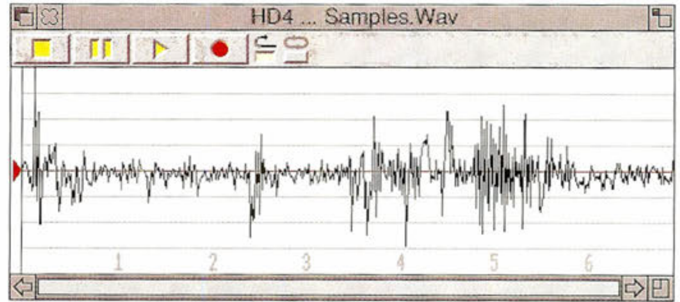
WordWorks presents an exact on-screen representation of the printed page of a traditional paper thesaurus and dictionary - including italics, highlights etc. It therefore offers the familiarity of the traditional paper product along with the convenience and speed of the computer. It offers instantaneous lookup of words; once you've found the word or phrase you want, simply double click on it to transfer the selected word to your word processor or editor (this works with all desktop word processors). It also includes complete on-line hyper-text help and instructions so it's not even necessary to read the manual.

Note this product is bundled with Impression Style and Impression Publisher and is included in the upgrades available.

Price £39 + VAT (£45.82 incl.)



AudioWorks

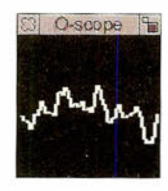


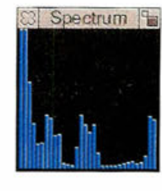
Shows example waveform, and playback buttons.

The audio capabilities of the Acorn computer have seldom been exploited - but all Acorn 32 bit computers have the ability to play back high quality stereo samples. !AudioWorks provides a complete suite of sound editing functions in one easy to use, low cost application.

AudioWorks is compatible with a whole range of sound files - including those from the PC and Amiga. In addition to playing back from the standard computer speaker, the software can sample from and playback to more advanced audio boards, such as the Eagle MultiMedia card (others to follow).

AudioWorks supports 8 bit, 12 bit, 16 bit, linear signed, linear unsigned, VIDC logarithmic, m - law logarithmic, mono and stereo samples.10



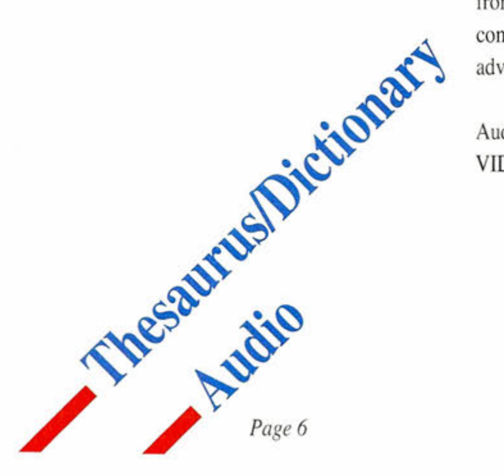


Features include:

- Accurate waveform display with instantaneous zoom.
- Cut, copy and paste of any selected part of the sound sample.
- A utility for playing back from hard disc in the background.
- Effects such as echo, reverse echo, amplify, wave form centering, ramp, pitch and amplitude bending, high and low pass filtering, re-sampling etc.
- On screen real-time spectrum analyser and oscilloscope displays.
- Import and export of Microsoft .WAV, Armadeus, DataVox, SoundTracker and RawData formats.
- Full background operation.
- Repeat loops.
- Multiple channel and multiple sample operations.

Price £49 + VAT (£57.57 incl.)





The BJC-600 & TurboDriver

Affordable, high quality full colour reproduction is now available for Acorn 32-bit computers. The brand new BJC-600 A4 plain paper printer from Canon, combined with Computer Concepts' 24-bit TurboDriver software, provides a key component in the full colour revolution that is occurring in the Acorn world.



Some of its key features:

- Four colour CMYK inks for the best full spectrum of colours including real black.
- Separate ink cartridges for each of the colours - saves ink and money. It's even possible to change the ink cartridge part way through a page being printed.
- Ultra fast drying inks designed specially to prevent ink spread on plain paper - no other colour ink-jet printer can even come close to the quality obtainable from this printer.
- 360 dpi provides 40% more dots per square inch than 300 dpi printers - visibly better resolution.
- The high quality of print on plain paper means lower running costs than other colour inkjet printers.

The package comes bundled with the latest colour TurboDriver software (and printer cable). This provides the fastest possible print times and full control over half-tones. The software includes advanced grey component replacements and black generation algorithms to ensure accurate colour reproduction and good greyscales - it also avoids 'black flooding' that can occur with other printers.

Price Guide under £500 ex VAT.
Min 4Mbytes RAM recommended
Requires RISC OS 3.1

RELEASE ACORN WORLD SHOW OCT 29th '93

Colour Printing





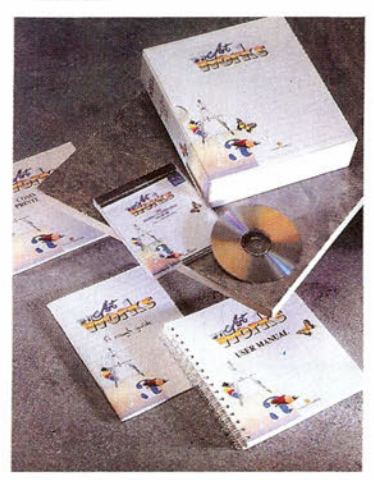
The ArtWorks CD includes:

- Everything that is on the clip-art CD, described below.
- A full copy of the latest version of ArtWorks.
- All fonts in both RISC OS 2 and RISC OS 3 outline format (RISC OS 3 format includes kerning information).

The ArtWorks package includes a selection of clip-art and a huge range of high quality outline fonts. Normally ArtWorks is supplied on 15 floppy discs and even then there isn't enough space to include everything we wanted - this CD provides the answer.

The latest version of ArtWorks (1.5) now includes full support for 24bpp sprites, making it the first (along with the new Impressions) Acorn application to support full colour sprites. Version 1.5 is compatible with the new graphics filter system used by Impression and includes a filter for TIFF files (the industry standard image format).
ArtWorks now includes the ability to print and separate these full colour images. 1.5 is also a new 'fast load' version of ArtWorks, ideally suited to relatively slow filing systems such as CD.

ArtWorks CD is a full and complete package, identical to the standard ArtWorks package including the regular manuals etc - except that all the discs containing the example ArtWorks files and outlines fonts have been replaced by the one CD.
Price £169 + VAT (£198.57 incl.)
CD Upgrade for registered ArtWorks owners - £29 + VAT (£34.07 incl.)
Floppy disc upgrade to version 1.5 (program only) - £10 + VAT (£11.75 incl.)









As a result of the ArtWorks clip-art competition we received over 700 high quality entries. This CD includes the best of them and many more ArtWorks and other graphic examples.

The clip-art CD contains:

- ArtWorks file viewer and over 800 ArtWorks example pictures.
- On-line ArtWorks presentation.
- Demo version of !AudioWorks and example audio files.
- Dozens of high quality 24bpp photographs - ideal for the new 24bpp-capable versions of Impression and ArtWorks.

More applications are now supporting the ArtWorks file format (for example, the Impression range and products from Iota, Clares, Longman Logotron and Risc Developments). The ArtWorks clip-art CD is the ideal way to gain some of the best illustrations available for Acorn computers.
Price £19.00 + VAT (£22.32 incl.)





ArtWorks CD
ClipArt CD

RELEASE ACORN WORLD SHOW OCT 29th '93

Computer Concepts Ltd

E&OE Prices & descriptions are subject to change

GADDESDEN PLACE HEMEL HEMPSTEAD HERTS HP2 6EX TEL.: 0442 63933 FAX. 0442 231632



NO FREE LUNCH?

The recent Tesco scheme looks as if it was even more successful this year than it was last year. I collected Tesco vouchers from the 1000 students at my school, as I did last year, so I sit here looking forward to about £500 worth of 'free' software. But what is the *real* cost of this software?

I'm not here to fight for the software houses, nor do I feel any particular loyalty to any of them. I do however know some of the people behind Acorn specialist software companies, and I have yet to speak to anyone who doesn't claim sales are down as a result of this scheme.

One person said: 'it was like someone turning off a tap the day the first advert appeared; it was only sales of non-Acorn hardware which kept us afloat.' And another: 'if they do this again next year, we might as well pack up and go home now.' Emotive words indeed, and others echo similar thoughts.

It seems that the software houses that don't take part in the scheme lose when potential customers choose the software from a competitor because it's free, and those that do take part lose because they're not making enough profit from the transaction.

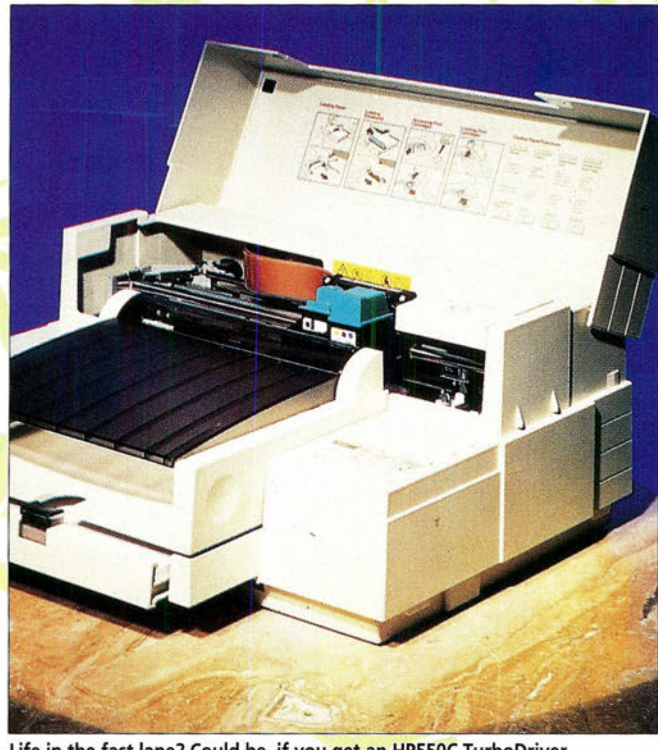
Both the companies quoted above are seriously worried about their future if another scheme is launched next year. If the companies who specialise in Acorn educational software cease to exist, innovation would be stifled, technical support would dwindle, and prices would go up with the lack of competition. Is this being over-dramatic? Apparently not.

Will I take part in the scheme if it goes ahead next year? It's a tough question. My first loyalty is to my school and students, but some software houses would argue that I would be doing my school a disservice if I did take part. The software houses have a powerful argument, and try as I might, I feel that Tesco's motivation behind the scheme is not purely philanthropic. But what about Acorn themselves? Whatever the outcome, Tesco will survive, but the state of the Acorn market is anybody's guess.

I suppose what galls me most is that schools have to resort to charities and publicity stunts to get the basic tools to do the job.

Geoff Preston
Head of IT, Highgate Wood School

A long letter, but worth the space, I think you'll agree.



Life in the fast lane? Could be, if you get an HP550C TurboDriver

TURBO DRIVING

In the article in the August issue on printer drivers, the section on background printing explains quite well the problems with the Acorn printer drivers.

However, the statement that the last stage of printing, when codes are sent to the printer, is a background process may be true for Acorn drivers, but not for our TurboDrivers. The TurboDrivers have always offered background transmission of data, even on Risc OS 2, and it is not necessary to go through two stages to achieve this.

The statement that the printing of documents hangs the machine is also quite untrue for TurboDrivers, as the process of rasterisation is significantly faster due to our faster printing routines. So, all stages of the printer driver are improved, resulting in very significant speed increases across the board.

Charles Moir
Computer Concepts

The Archimedes is a wonderful, fast computer. DTP is a joy – until you have to print something; you might as well go and clean the car while you wait for your precious printout. Even if you master the convolutions of 'background printing' in Risc OS 3 you have to wait an age to get your hands back on the keyboard.

At last! Computer Concepts has brought out a TurboDriver for my antiquated LaserJet II. A simple six-page leaflet used to hang up my A5000 for 11 minutes: now I get typing again after just 70 seconds while the laser chugs away in the background.

My advice to Acorn would be to invest in TurboDriver technology for their forthcoming machine: it won't matter how fast the Arm700 is printing if it still hangs the machine for an age.

I Trimble
Nottingham

VALUE ADDED TAXAN

I thought I should write to you to let you know of the excellent service I have just received from Taxan (Europe).

I started to experience problems with my Taxan MV795 which my dealer was unable (or unwilling) to sort out. I contacted Taxan, who not only sent someone all the way to Norfolk from Surrey for an on-site visit, but sorted the problem out there and then.

This service they provided free of charge to compensate for the inconvenience I had suffered through my dealer's poor conduct.

It is not very often these days that service at this level is received and I thought that I should write to give them a pat on the back.

T Grantham
Norfolk

That's the happy letter for the month: shame your dealer wasn't so helpful.

A4 PRICE WAR

With regard to the letter from Mr Imossi about the lack of expansion capability of the Acorn A4 portable. The lack of support from third parties is the result of the small numbers which have been sold. The reason is simple: the price is too high.

The A4 is basically an A5000 in a portable package, but to make the A4 as close to an A5000 as possible you would need to add a full-size keyboard and a multisync monitor. Therefore I consider that the price of the A4 should be no more, and preferably lower than the A5000. If the price was reduced to this level, sales would undoubtedly increase and this would encourage third-party developers to give the A4 the support it deserves.

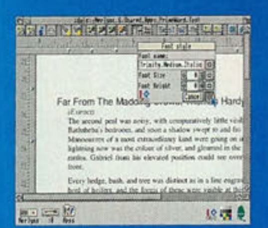
M Lowe
Essex

Ah, the old 'make it cheaper and they'll buy it' argument. If I had a penny for every time I'd heard that one, I might be able to afford an A4.

Prime Series

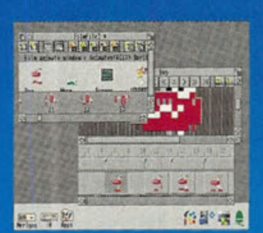
"The range of software with configurable button bars making it suitable for children or adults, for leisure, education or professional use"

£79.95 + VAT



£59.95 + VAT

£79.95 + VAT





£79.95 + VAT





SOFTWARE

MINERVA HOUSE, BARING CRESCENT, EXETER, EX1 1TL
Tel. (0392) 437756 Fax. (0392) 421762









Hard Drive Upgrades -
New Lower Prices and Higher Capacities

The Benefits Of A Hard Drive

Adding a hard drive to your computer is one of the most useful upgrades that you can perform. It will transform the way in which you use your computer as you find that all of your programs will load many times faster. Hard drives are as simple to use as floppy drives, with a new icon appearing on your icon bar.

IDE From RISC Developments

These kits have been designed specifically for the Acorn range, and are extremely reliable. We are constantly improving our range and are now pleased to offer higher capacities at lowest ever prices. They are ideal for home or educational use and have been successfully installed by several thousand Acorn users without problem.

Simple To Install

All of our drives are supplied complete and most can be fitted in minutes with no previous experience or special tools. You will not invalidate your warranty by fitting one of our drives. The drive will be supplied fully tested and formatted ready for immediate use. We offer full technical advice and support by phone should you be unsure of anything.

A3000 Internal Hard Drives
These units consist of a 2.5" drive mounted on the interface card. The unit fits in to the mini expansion slot. Available with an optional User Port to make use of devices such as Concept Keyboards.

A3000 External Hard Drives
The hard drive is supplied in a matching metal case and connects to a metal cased interface that fits externally to the A3000 'expansion' slot.

A3010 Internal Hard Drives
A range of integral drive kits that fit into the mini expansion slot on the A3010. These units use the RISC OS 3 ADFS filing system.

A3020 and A4 Internal Hard Drives
These drives are upgrades for systems that were purchased without the standard Acorn drive. Unfortunately these are dealer fit only and you will need to return your computer for upgrading.

Archimedes (A300 and A400 series) Internal Hard Drives
The drive is fitted in the hard drive slot provided, and the IDE interface is fitted into the podule backplane and can also control a second external hard drive if required.

Archimedes (A300 and A400 series) External Hard Drives
As above except that the drive is supplied in a matching external case.

Archimedes Hard Cards
These drives are mounted on the IDE interface card and will fit in any podule slot on the A300/A400/A540/A5000 series.

A5000 Second Drives
A range of drives that may be used as a replacement to your existing hard drive or as a second internal hard drive.

(Please note: In accordance with the industry convention, all drive capacities are quoted on the basis that 1Mb is equivalent to one million bytes.)

RAM and Processor expansion

RISC Developments produce a full range of RAM upgrades for all machines, including 8Mb boards. Also available is an ARM3 processor upgrade for the A310, A400 series and A3000. The A310 4Mb RAM card also allows RISC OS 3.1 to be fitted without a separate hardware upgrade. All of these items are user fittable except for the A5000 8Mb RAM cards and the ARM3 for an A3000. In these cases, you must return your computer to us for fitting. If you have an A5000 upgraded from 2 to 4Mb, and you wish to upgrade it to 8Mb, you must remove the existing upgrade and purchase the 2 to 8Mb card. If your existing upgrade is a RISC Developments or Acorn model, then we can offer a £60 trade-in on it.

Code	Description	Price (ex VAT & p&p)	Code	Description	Price (ex VAT & p&p)
0133c	A3000 1Mb RAM	£31	5275g	A3000 Internal IDE 210Mb	£539
0130c	A3000 1Mb RAM (Ugdable)	£59	5240g	A3010 Internal IDE 20Mb	£179
0131e	A3000 4Mb RAM	£139	5242g	A3010 Internal IDE 80Mb	£289
0144c	A3010 1Mb RAM	£29	5243g	A3010 Internal IDE 120Mb	£379
0146e	A3010 4Mbyte RAM	£129	5245g	A3010 Internal IDE 210Mb	£529
0145c	A3020/A4000/A4 2Mb RAM	£89	5230g	A3020 & A4 IDE 20Mb	£125
0125e	A310 4Mb RAM	£269	5232g	A3020 & A4 IDE 80Mb	£229
0278c	A400/1 Series 1Mb RAM	£27	5233g	A3020 & A4 IDE 120Mb	£299
0141e	A410/1 8Mb RAM Card	£569	5235g	A3020 & A4 IDE 210Mb	£479
0142e	A420/1 8Mb RAM Card	£509	5296g	A5000 162Mb 2nd Drive	£219
0143e	A440 & A440/1 8Mb RAM	£479	5294g	A5000 260Mb 2nd Drive	£319
0147g	A5000 2->8Mbyte RAM	£499	5298g	A5000 450Mb 2nd Drive	£519
0124c	A5000 2->4Mbyte RAM	£99	5263g	Arch External IDE 162Mb	£359
0148g	A5000 4->8Mbyte RAM	£429	5265g	Arch External IDE 260Mb	£479
9981g	ARM 3 A3000 Fitting	£30	5266g	Arch External IDE 450Mb	£679
0134e	ARM 3 Upgrade	£165	5290g	Arch IDE 20Mb Hard Card	£199
5297b	User Port Power Supply	£17	5292g	Arch IDE 80Mb Hard Card	£299
5283g	A3000 External IDE 162Mb	£369	5293g	Arch IDE 120Mb Hard Card	£379
5285g	A3000 External IDE 260Mb	£489	5295g	Arch IDE 210Mb Hard Card	£529
5286g	A3000 External IDE 450Mb	£689	5253g	Arch Internal IDE 162Mb	£259
5270g	A3000 Internal IDE 20Mb	£199	5255g	Arch Internal IDE 260Mb	£379
5272g	A3000 Internal IDE 80Mb	£299	5256g	Arch Internal IDE 450Mb	£579
5273g	A3000 Internal IDE 120Mb	£389			



RISC Developments Limited 117 Hatfield Road, St Albans, Herts, AL1 4JS Tel (0727) 840303 Fax (0727) 860263

The main Event

Want to know who got assassinated, born or invaded on the day you made your entry into the world? ExpLAN's Event could be the diary program for you, as Ian Burley discovers

Until ExpLAN's *Event* desktop diary program arrived, I never knew that the day I was born the Russians successfully retrieved a canine cosmonaut for the first time.

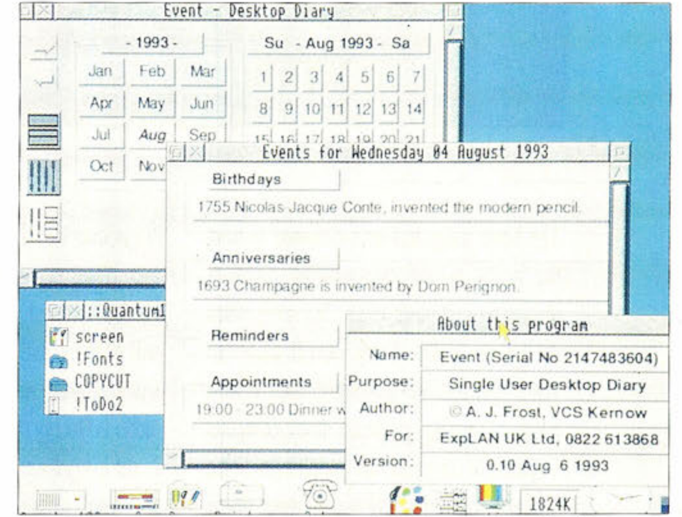
As you might guess, *Event* is no ordinary diary. This version offers over 700 items of historical trivia to brighten up your day. More importantly, *Event* can import and export diary data with *Schedule* on the Acorn PocketBook and *Agenda* on the Psion Series 3.

Event is a subset of an integrated calendar/diary, address book and notepad, called *Occasion*, which is still under development. Event customers get the calendar/diary bit and will be able to upgrade to *Occasion* when it is released.

Everything in *Event* centres around the calendar window. This has buttons for all the months of the year plus the days of the currently-selected month. There is an option to show a large calendar which shows a year's months either side of the current year plus the month's days each side of the current month. To reveal the days of a different month just click on the relevant monthly button. By clicking on a daily button one or a number of windows related to the diary page appears.

Which windows appear is governed by control icons to the left of the calendars. Options include the basic diary page, a weekly planner window or both windows together on the screen. The weekly planner shows, at a glance, appointments against a timescale and days which have other events programmed in.

You reveal details by clicking on appointment bars. An empty diary page contains four headings; Birthdays, Anniversaries, Reminders and Appointments. The first three function the same and incorporate an optional reminder facility which flags events before, or after the date.



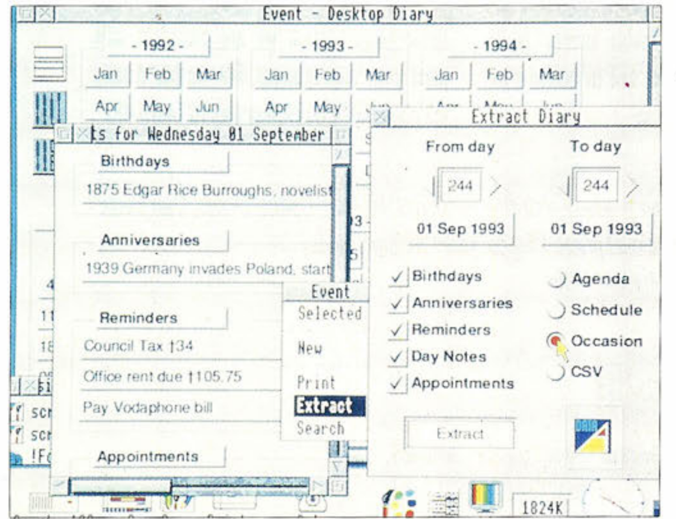
The diary page, showing the calendar and the four standard headings

Appointments have time limits as well as the reminder option. The third Appointment variable is Repeat. This allows repeat patterns like every Thursday, Saturday and Tuesday, and alternating weeks. This is ideal if you work very complicated shift patterns, say.

The diary page invites you to click on one of its headings, but doesn't do anything unless an item is already entered. Clicking on an item selects it but to edit it or enter new items you need a menu. A double-click to avoid the menu and go into Edit was what I'd expect.

For me and other Psion Series 3 or PocketBook users, its diary data compatibility feature, via A-Link, is its most attractive feature. You can convert *Schedule* data to *Agenda* or vice versa.

Event should be considered by anyone who uses *Agenda* or *Schedule*. The cost may be a cluttered screen and a slightly odd user interface, but it beats using a pocket-sized keyboard.



But if you are not careful your screen can get a little cluttered

Product details

Product: Event
Supplier: ExpLAN Software
Tel: (0822) 613868
Price: £24.95

Focus IT Price List

SCSI Internal Drives

A300, A400 & A5000

Size	Drive Man	Warranty	Price
120 Mb	Quantum	2 Years	£299·00
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240 Mb	Quantum	2 Years	£469·00
435 Mb	Quantum	2 Years	£699·00
600 Mb	Micropolis	5 Years	£764·00
1000 Mb	Micropolis	5 Years	£1065·00

SCSI External Drives A300, A400, A5000,A3000, A3010, A3020, A4000

Size	Drive Man	Warranty	Price
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170 Mb	Quantum	2 Years	£448·00
240 Mb	Quantum	2 Years	£559·00
435 Mb	Quantum	2 Years	£789·00
600 Mb	Micropolis	5 Years	£854·00
1000 Mb	Micropolis	5 Years	£1155·00
1500 Mb	Micropolis	5 Years	£1595.00
2000 Mb	Micropolis	5 Years	£1875.00

SCSI Price includes: Drive unit, controller card, SCSI & CD filing systems, internal mounting kit or External case, PSU, fan, cables, utilities disc & manual. A3000 has optional internal or external SCSI card. A3010, A3020 and A4000 have internal SCSI cards. The warranty period quoted above applies to the hard disc mechanism only. All other parts are one year warranty. Drive units are available as additional devices.

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Price excludes: SCSI controller card.

All the above units are external devices and come complete with cables, & manual.

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CD Rom drive does not include bundled CD Rom software titles.

Magneto Optical Drives include one disc, additional discs may be purchased, price on application.

SCSI cards price on application.

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Black Box Sound Sampler	£29·95

A3000 series User Port & User Analogue Port

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User Analogue Port	UAP01	£39·00

The above prices exclude P&P and VAT. One Off P&P: Black Box, User & User Analogue Ports £2.85. Trolleys £15.00 all other products £10.00 plus VAT.

Black Box Sound Sampler

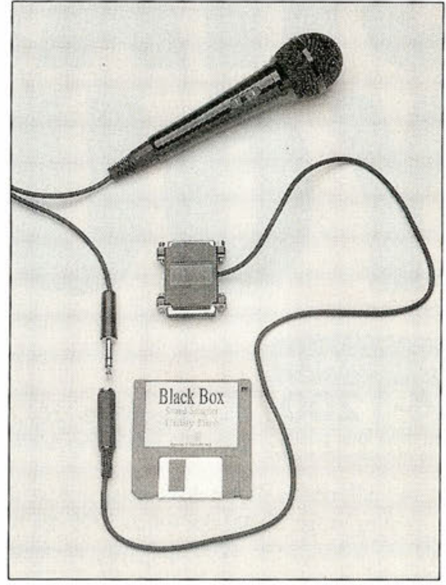
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Black Box is manufactured to withstand even the most robust classroom use and it could not be easier to use. The software provided with Black Box allows samples to be recorded and played back. Samples can be transferred to multimedia programs via the standard Armadeus file format.

Black Box sound samples give hours of fun and even allow exciting multimedia applications such as talking stories, interactive modern language



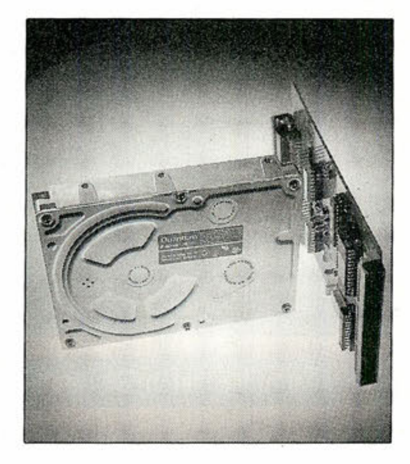
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The SCSI controller includes the Acorn CDFS and the system includes all the components you require to fit the system. The hard disc system comes with easy to follow fitting instructions together with comprehensive SCSI manual.

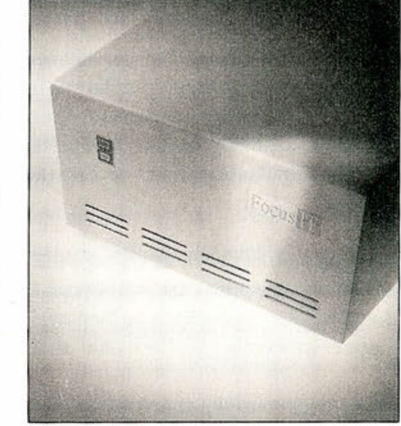
Price includes: Drive unit, controller card, (SCSI and CD filing systems), internal mounting kit, SCSI utilities disc, manual and full fitting instructions.

The Ecole range of external hard disc upgrades is designed to be plug in and go. The system includes a SCSI controller which in turn includes the Acorn CDFS filing system. Every hard disc system has been tested at each stage of its manufacture, and has been given a final rigorous test to ensure that it meets our high standards.

The hard disc unit is housed in a metal case together with a switch mode power supply, and a low noise fan, and is fitted with industry standard SCSI in and out connectors. The attractive case is stove enamelled and colour matched to the Acorn computer and comes complete with a round shielded SCSI cable.

Price includes SCSI utilities disc, manual and full fitting instructions.

Please Note * A3000 series have an internal 8 bit SCSI card.



Introductory Offer 120 Mb Internal hard disc and SCSI Controller only £299 plus VAT



A VIGIL TO KEEP

A hard product to describe, this one. Suffice to say Mark Moxon now can't live without it. Find out what Vigil is and why it's a must-have

Ask the average man in the street what he thinks about programming, and you'll get one of two answers. The first is that programming is really glamorous, and programmers are gifted craftsmen, creating works of art with which they astound the world. The other is they should experience sunlight more often.

It doesn't matter your school of thought: there is no doubt programming has its problems. Especially programming for a multi-tasking system, like Risc OS. The idea is that your program should sit there in its own little world, shut away from other applications so it doesn't interfere with the rest of the system, great if you're *using* the system, but not if you're trying to track down that little bug in your own application that gives you a 'Bad vector release' error and hangs the system.

It's traditional that at this stage the reviewer says 'enter so-and-so', and who am I to buck tradition? Enter *Vigil*.

What does it do?

Vigil is tricky to describe. Unluckily for the poor devil who has to write the adverts, it doesn't fit into any neat categories like 'document processor' or 'image manipulator'. The best I've managed to come up with is 'application workspace editor' which, if anything, undersells the product. *Vigil* is aimed at the programmer writing multi-tasking applications in Basic or Assembler (or C, I suppose) and is one of those 'can't live without it' applications.

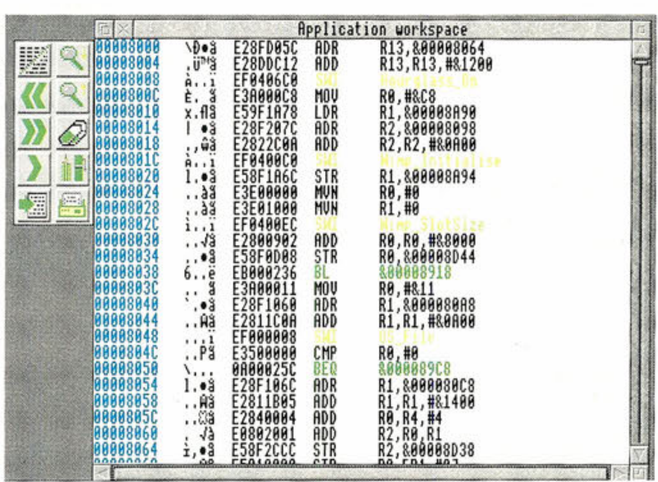
The first thing you have to do is register your application with *Vigil* by dragging it to the iconbar: the application is run, and the main *Vigil* window pops up. It looks good, with Rheingold's trademark blue and green borders as in its other products; trivial though it sounds, if you're going to spend hours debugging your masterpiece using *Vigil*, you want it to be clearly laid out.

From the main window bring up the workspace display, the poll filter, the variable displays and the timer. Sounds great, but I can't think when a stopwatch would be useful when writing programs. Still, it's there if you need it.

Static variable list

@%	2314	(&0000090A)	N%	710312020	(&2A568054)
A%	286703874	(&1116C102)	O%	-2049510832	(&85D6F250)
B%	286700026	(&1116B1FA)	P%	286703880	(&1116C108)
C%	286675051	(&1116506B)	Q%	1045561900	(&3E52022C)
D%	286736723	(&11174153)	R%	814104608	(&30864020)
E%	286663114	(&111621CA)	S%	286691428	(&11169064)
F%	973492322	(&3A065062)	T%	1228288453	(&493631C5)
G%	286736485	(&11174065)	U%	944132195	(&38465063)
H%	-2118696844	(&81B74074)	V%	286712352	(&1116E220)
I%	1359368308	(&51065074)	W%	1036394904	(&3DC62198)
J%	286716465	(&1116F231)	X%	1298551307	(&4D66520B)
K%	286736844	(&111741CC)	Y%	286691689	(&11169169)
L%	1207099854	(&47F2E1CE)	Z%	286679145	(&11166069)
M%	790970790	(&2F2541A6)			

Displaying variables: possibly the most useful thing you can ever do



The disassembly window, complete with its sexy little toolbox

Space to work

For the Basic programmer, the variable displays will be will justify the price alone. You can bring up a window containing the values of all the variables the application has defined, so you can tell what's going on while your program is running. This is so much more flexible than the normal method of putting statements in your application to print out variables at crucial times, and once you've used this feature, you'll never look back.

For Assembler programmers, there isn't such an easy way of showing variable values, mainly because Assembler doesn't have variables in the usual sense of the word. Assembly programs store values in certain locations, and this is where the workspace display comes in handy.

An application's workspace is the memory that it occupies in the machine, and *Vigil* displays it in a scrollable window, updating it when you want it to. The display can show either a hexadecimal dump of the memory slot, or a disassembled listing if you want.

The window has a toolbox pane attached to the top left-hand corner which allows access to the various tools available. As with all good editors, you can search through the workspace, matching bytes, words, mnemonics, SWI calls, and strings, and you can go to a specific address within the workspace. It is here that you can alter the contents of the workspace, though this is something you should only do if you feel confident: get it wrong, and you could easily hang your machine.

The poll filter is another really useful idea. It allows you to display the poll reason codes your application receives in a scrolling window, which is exceptionally handy if you have an application which doesn't seem to be responding correctly to the environment around it. You can even choose which poll codes should be displayed.

The rest...

There are plenty of other useful little features that Vigil provides, but the most useful is the ability to display information about any modules you have got loaded. For any module you can disassemble its code, display its workspace, and list its SWIs and its star commands.

Like all good products, there are loads of little bits and bobs you'll find useful, so I won't waste space detailing them all here. Suffice to say *Vigil* is a godsend, and if you're a multi-tasking programmer, buy it.

Product details

Product: Vigil
Supplier: Rheingold Enterprises
Tel: (0925) 210657
Price: £24.95

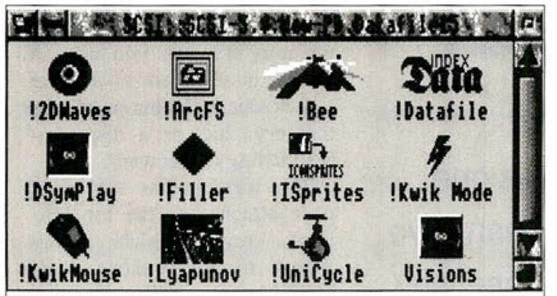
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IN BRIEF

Basic programming on the Acorn and a package that replaces your messy grey splodges with neat grey lines

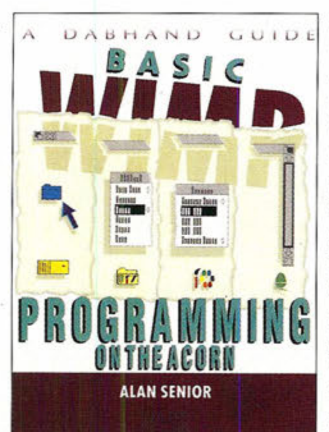
BOOK REVIEW

Title: Basic Wimp Programming on The Acorn
ISBN: 1 870336 53 4
Supplier: Dabs Press Publishing,
Price: £14.95

Hi there, Dabs Press, where have *you* been? The answer is 'late'. On the Acorn, a considerable proportion of users are going to be budding programmers, and these are precisely the people previous Dabs publications, both for eight- and 32-bit owners, have aimed at.

Most people, having reached deep into their pockets for the price of an Acorn machine, are reluctant to shell out for a leviathan like the *Risc OS 3 Programmer's Reference Manual:* authoritative, yes, but a little intimidating at 3220 pages and nearly a ton in price.

Hence Sigma Press' *Beginner's Guide to Wimp Programming* and Risc Developments' *Wimp Programming for All.* £12.95 each, enough to get you started, lots of example programs, and no assumption that you have at least a 2.1 in Computer Science. Indeed, one of our main criticisms was that these two titles erred a little too much on the side of simplicity.



So what can latecomer Dabs offer at £14.95 that the others can't? Well, for a start, 464 pages as opposed to SP's 177 pages and RD's 192. In fact, some of this is deceptive, because Dabs elects to put far fewer lines on a page than the others but it's still a lot more. With that much space, Dabs makes no assumptions about the knowledge of the average reader – you could start reading this if you'd only just plugged in your new machine and sat down.

I do have my reservations. The long intro, plus appendices, accounts for much of the book, leaving the real meat broadly similar in size to that in the other two books. But these extras cost a mere £2 more. Furthermore, this book looks like a professional product. The line-spacing looks a bit like padding, but it is well-structured, with clear page numbers, chapter headings and crossheads.

Risc Developments, though lacking in presentation, has a lot more to say about the knotty subjects of fonts, and real beginners may find Sigma's offering useful. But Dabs has gone for the whole range, from tyro to experienced programmer, so if you're only going to buy one book, buy this one.

Fin Fahey

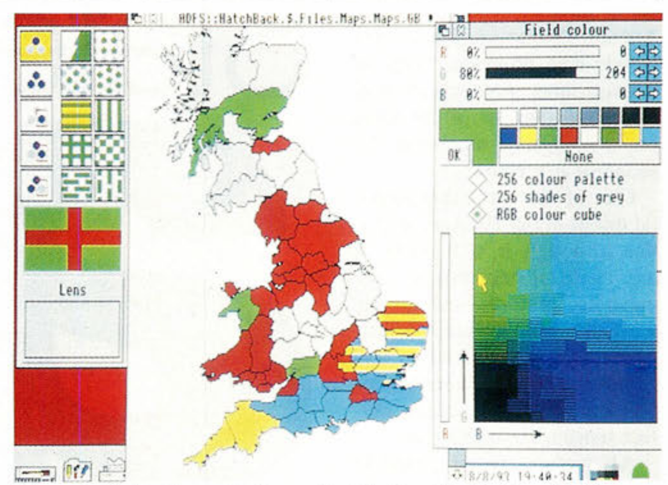
HATCHBACK

Supplier: 4Mation
Tel: (0271) 25353
Price: £35.00 + VAT (includes site licence)

Monochrome printing can be disappointing. You spend days creating designs in reds, greens and dark blues and when they come out of the printer, you get a splodgy black mess.

Hatchback is a utility for *Draw* and *Poster* which tries to solve this by replacing areas of solid colour with hatched shading patterns. 4Mation calls them chloropleths. Operation is simple. When you drop a *Draw* file on to the program icon, a window opens containing your picture and a toolbox of fill patterns and 'target' icons. To modify a drawing, you choose a pattern from nine varieties of lines, dots, cheques and dashes, then select *Draw* objects. The target changes to cross-hatching.

Target objects can be defined in five ways. In Local, the only object changed is the one under the cursor; Global, changes all objects of a given colour; and there are three drag box settings – Within box, Beneath box and Outside box.



We apologise to viewers in the north of Scotland for the loss of picture

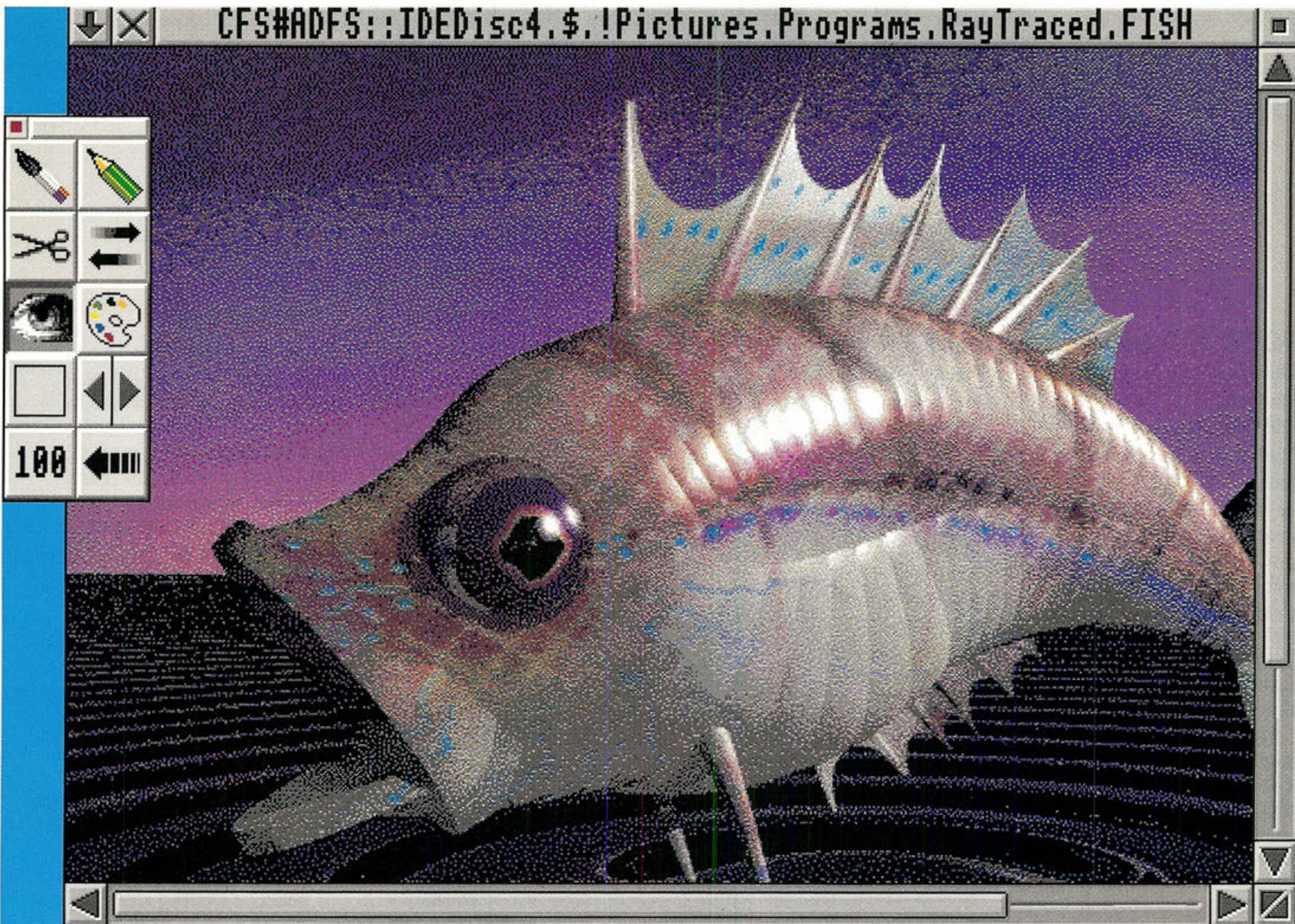
Chloropleths can be modified using three parameters: angle, intensity and frequency. Angle rotates patterns; density alters ratio of foreground to background colours and defines darkness in black-and-white work; frequency sets the grain of the pattern. You can also generate coloured patterns from a 256-colour palette.

Hatchback converts pictures into shades of grey

Hatchback is very good at producing coarse shading of the sort you might use for black-and-white presentation of graphs and diagrams for example, but, at the millimetre frequencies that are required for half-tone and similar effects, it gets very slow, very memory-intensive, and creates some very big files.

If you are going to be doing a lot of display work, *Hatchback* could be very useful but, for high-resolution uses, I would advise you to buy a big machine to go with it.

Richard Garrett



State of the art

At last ProArtisan 2 is here. We look at the most important graphics release of the year

Whereas *ProArtisan* was an 'enhanced' version of *Artisan*, *ProArtisan 2* is a completely new program. Users of *Artisan* and *ProArtisan* will identify a number of the tools but will barely recognise the program as a whole.

One of the most fundamental things about *ProArtisan 2* is that although it will work in any mode, it does not, in fact, generate pictures using any particular mode. This is a little odd to understand (and explain) at first, although once you know why, it makes perfect sense to do it this way.

All pictures being edited in *ProArtisan 2* are held 'internally' as high-resolution (square pixel) screens with 24-bit palettes. This is useful if you have a graphics card fitted to your machine, but more on this later.

Once *ProArtisan 2* has loaded, you have the option of loading an existing picture in or creating a 'canvas' onto which you can draw. Like *Impression II* with documents, *ProArtisan 2* can hold any number of pictures at one time, as long as there is sufficient memory.

Creating a canvas is simple and is just a case of providing *ProArtisan 2* with a couple of dimensions. As well as pixels, canvases can be defined in terms of inches or centimetres and a selection of sizes is provided. Like many of the Risc OS applications around at the moment, *ProArtisan 2* utilises a small toolbox window (shown above) containing ten

icons. Rather than one large menu, *ProArtisan 2* changes the menu depending on what 'tool group' is selected on the toolbox. There are five 'tool-groups' with five corresponding menus, namely Paint, Draw, Sprite, Input/Output and Process. The five remaining icons cover the palette, the 'frisket' (more of which later), screen magnification, and the undo tool.

The competition

Both *ProArtisan* and *Image Pro* run in the desktop environment and provide similar tools for creating and manipulating pictures. Each has its pros and cons. *ProArtisan* has the option of using any colour as an opaque colour but *Revelation ImagePro* is limited to just six, plus black-and-white. *ImagePro* does have a slightly simpler front end.

I've used *ImagePro* considerably in the past but *ProArtisan 2* now looks like the better option. One of the obvious differences between the two packages is the price: £135 for *ProArtisan 2* and £166.85 for *ImagePro*.

If you are a first-time buyer, the best way to choose between them is to see them actually up and running. This month's cover disc contains a full demonstration version of *ProArtisan 2* for you to peruse. *Revelation ImagePro* will no doubt be on show on the Longman Logotron stand at the forthcoming World of Acorn Show at Wembley: an ideal opportunity to compare the two.

What's new?

Virtually every part of the original *ProArtisan* has been improved or developed in the new version. Old faithfuls such as the Magic Brush are still present but have been updated to fit in with the new features.

The Palette is much the same as in the original *ProArtisan*, but now allows you to choose the 'amount' of colour that is applied to a picture by means of an opacity slider. This ranges between 0 and 100 and if used correctly, allows very subtle colour changes to be carried out.

Virtually every part of the original ProArtisan has been improved or developed in the new version.

Another addition to the palette is the picker, which contains the last sixteen colours used in a picture. This helps considerably when you're using a varied set of colours and is also used by other tools in *ProArtisan* such as dopple and diffuse.

As well as colour, you can now paint 'textures' onto a picture. A texture is effectively a repeating pattern made up of four greys, which when 'painted' over a picture, applies that texture as either light or dark. Sixteen different textures are provided ranging from canvas to



Painting textures on to a picture

basket-weave.

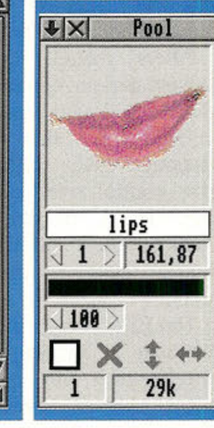
A number of other 'paintable' effects include smudging, doppling, smearing and diffusing. All four tools produce results that their names would suggest, with smudge and smearing giving a kind of water-colour result, while dopple and diffuse produce a stippled look.

Drawing tools are similar to those in the first release of *ProArtisan* but now use the Risc OS 3 (or Risc OS 2) *Draw* module to produce the actual lines. This means it's now possible to create solid filled shapes as easily as you would in *Draw*. Curves have been enhanced so they automatically auto-smooth as you moving the pointer around.

A rather novel tool has been added to simplify the cutting out of sprites. The Magic Wand (not to be confused with the Magic Brush) lets you cut out an area of a picture just by pointing and clicking on it. It works by 'looking' around the edge of the area for what it considers to be pixels of similar colour or shade (the background). The magic wand is not infallible but will work in a surprising number of situations where free-hand cutting out is near-impossible.

Once chosen, sprites are stored in a sprite pool: a special area of memory that can be saved-out separately to the canvas. Any number of sprites can be stored in the pool depending on the amount





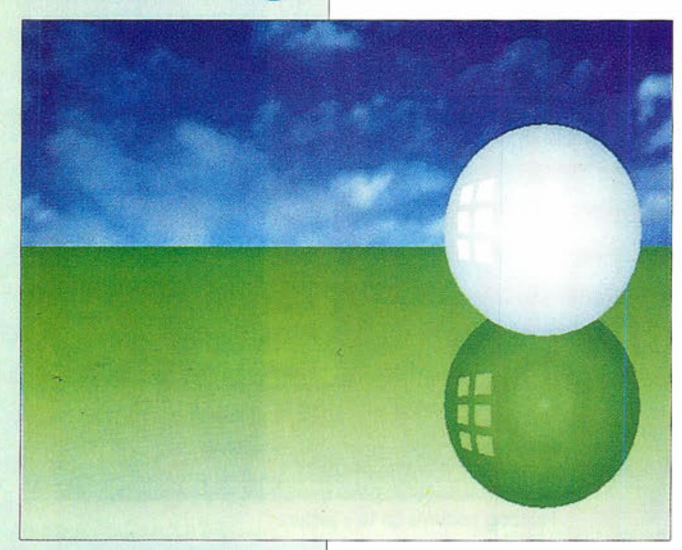
The sprite pool containing a sprite cut out with the magic wand

Top ten

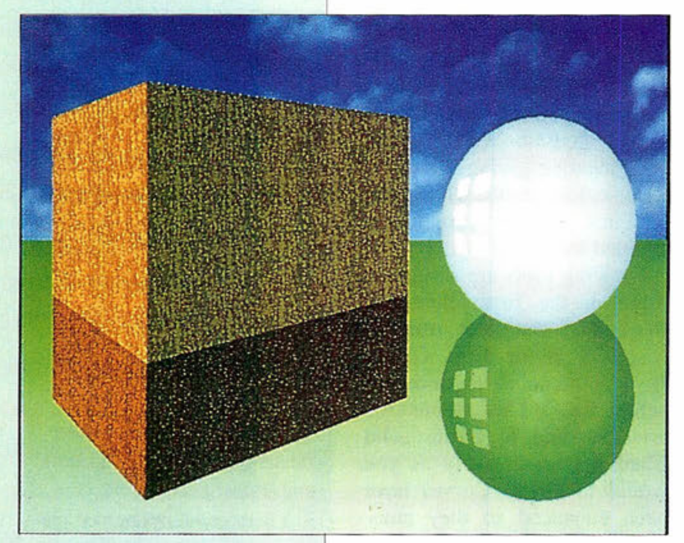
With so many features available, it's tricky to come up with a top ten, but here it is nonetheless: our favourite features in ProArtisan 2. . .

1. Colour opacity – any colour can be applied to a canvas at any 'level' between 0 and 100.
2. Magic wand – Sprites can be cut out of a picture just by pointing and clicking on them.
3. Distort – Sprites can be squashed into any four-sided figure, making perspective effects easy.
4. Frisket – Complex masks can be created easily to protect any area of a canvas.
5. Emboss – A rather neat tool giving a kind of engraved effect.
6. 24-bit palettes – Colours for a picture can be chosen from a selection of over 16 million shades (when a Colour Card or G8/G16 card is fitted in your machine).
7. Fills – Virtually any fill is possible. Graduated fills are particularly effective with the editable palette.
8. Textures – 'Depth' can be applied to a picture with many effects ranging from Canvas to Concrete.
9. Generic Filter – A customisable filter lets you design global effects for a picture.
10. Colour/Grey Shift – Colour and grey levels in a picture can be 'turned up or down'.

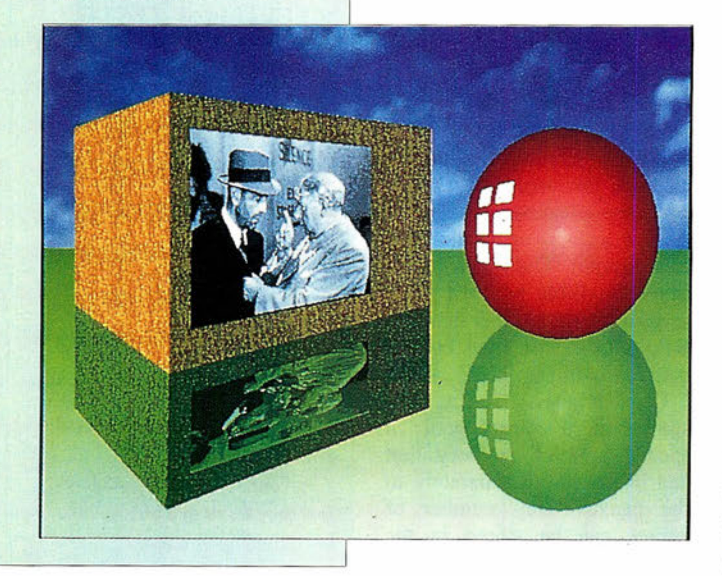
Walk through



The first two stages show how realistic solid shapes are created using shading and perspective



Below shows how a separate picture can be superimposed onto a solid object



of memory present in your machine. Sprites can also be loaded into the pool simply by dragging them from the relevant filer window.

In addition, sprites can also be painted onto the canvas using any one of twelve different blends: they can be made to fade from left to right, top to bottom, or even emanate from a central position to give a 'misty' effect round the edges.

I've already mentioned that *ProArtisan 2* holds pictures internally as high resolution images with 24-bit palettes. A standard Acorn machine is unable to utilise these and *ProArtisan* saves files in Mode 21 as default. You can however, convert the internal image to any mode you wish by typing in the relevant number at the time of saving.

The choice of effects and processes that you can apply to a picture could fill an article on its own

If you have either Computer Concepts' Colour Card or one of State Machine's G8/G16 range of graphics cards fitted to your machine, you can edit the palette so that it contains any colours from a selection of 16.7 million. There is even the option of choosing two colours, after which *ProArtisan* will select the colours in between. This allows you to easily create pictures with 256 greyscales.

Image processing

Image processing is a particular area where *ProArtisan 2* has undergone a major revamp and the choice of effects and processes that you can apply to a picture could fill an article on its own.

Filters include the usual lighten, darken, contrast, plus a global anti-alias (similar to smudge in the Painting section). Two further tools give control over colour and grey levels in the current picture. These allow you to convert colour images to mono.

The Effects are a completely different ball-game and provide such tools as Emboss which turns any picture into a kind of engraving. Other notable effects are a generic filter which allows you to customise the process by defining what happens to each pixel adjacent to the pixel being operated upon. A few filter styles are provided under names such as Vaseline, Blobby, Darken and Lighten. No option is provided to save user-defined styles but it's easy to re-create them if you note them down before shutting down *ProArtisan 2*.

The final 'major feature' included in the process menu is frisket creation. The word frisket refers to a kind of stencil used in traditional printing and in *ProArtisan 2* can be thought of as a mask. Friskets are defined by colouring in a special frisket canvas. When the frisket is turned on, all areas shaded in (on the frisket) are left untouched (on the canvas) by any painting, drawing, sprite or process action.

The Verdict

In the time I've had to play with *ProArtisan 2*, I can happily report that it's the best art package around at the moment for the Archimedes. *Revelation ImagePro* from Longman Logotron comes (a very close) second, but *ProArtisan 2* just pips it to the post with its list of features.

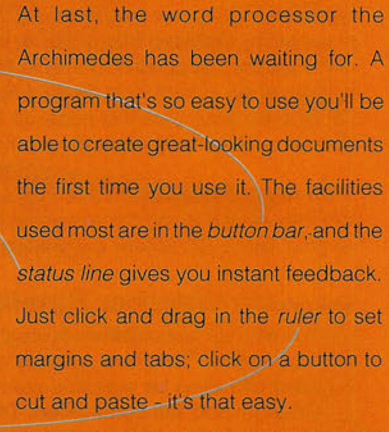
Ease of use is an important factor with a new program and if you are familiar with the Risc OS desktop, you should have no problem getting to grips with *ProArtisan 2* and full compatibility is ensured.

£135 is fully justifiable. Owners of other art packages over £35 can trade in their old program for *ProArtisan 2* at £87.50, making it even more desirable.

Product details

Product: ProArtisan 2
Supplier: Clares Micro Supplies Ltd
Tel. (0606) 48511
Price: Single-user version £135; upgrade from any Clares art package £67.50; upgrade from any other art package over £35 – £87.50.

news from Colton Software

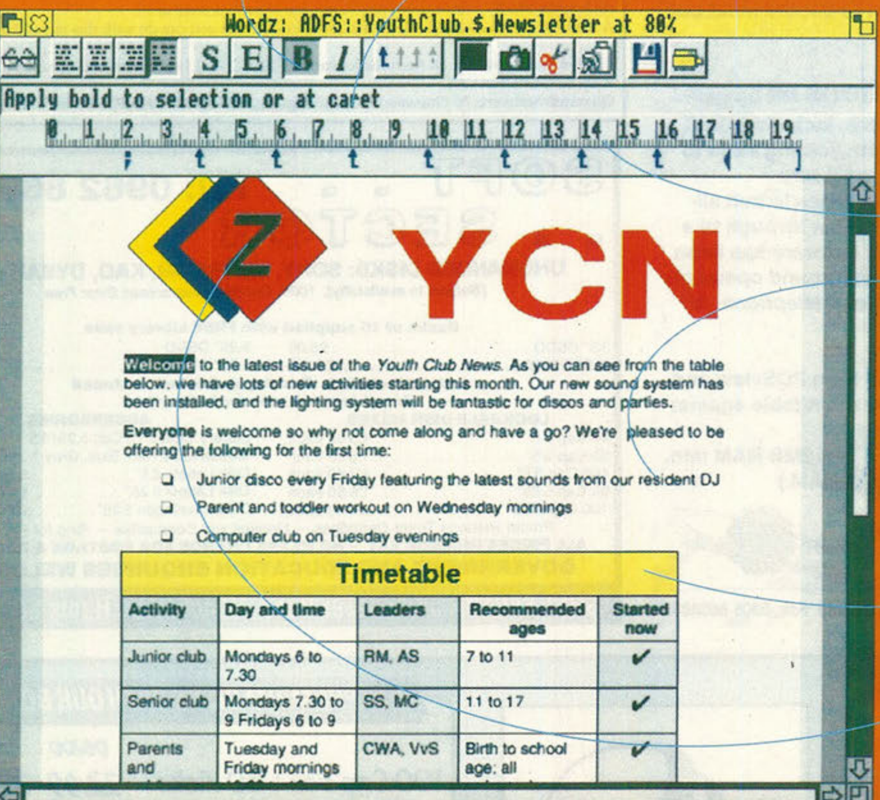


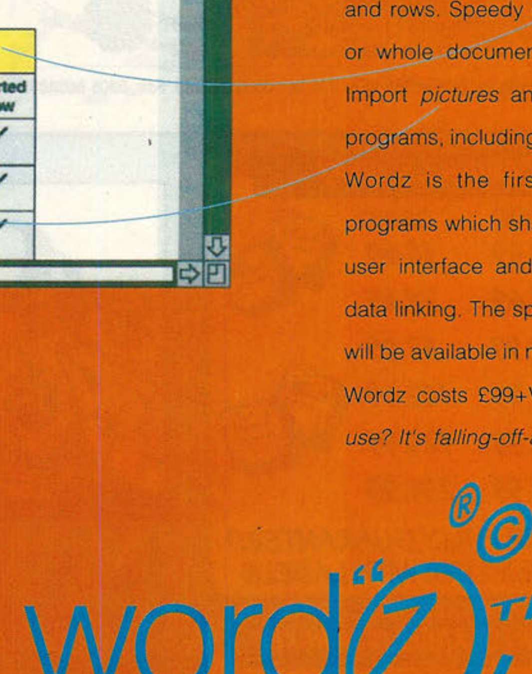
At last, the word processor the Archimedes has been waiting for. A program that's so easy to use you'll be able to create great-looking documents the first time you use it. The facilities used most are in the *button bar*, and the *status line* gives you instant feedback. Just click and drag in the *ruler* to set margins and tabs; click on a button to cut and paste - it's that easy.

Wordz has all the features you'd expect from a state-of-the-art word processor. The powerful style editor gives you complete control over all aspects of your text; *font, spacing, margins*, and *colour*. Unparalleled control over *tables* including dragging to resize columns and rows. Speedy check-as-you-type or whole document spell checking. Import *pictures* and text from other programs, including PipeDream.

Wordz is the first of a family of programs which share the same easy user interface and include dynamic data linking. The spreadsheet Resultz will be available in mid-1993.

Wordz costs £99+VAT. *"Is it easy to use? It's falling-off-a-log easy to use."*





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PDSview is a professional image processing application that works in full 24 bit colour resolution. It has been entirely rewritten with a new manual. New features include full colour separation of bit mapped images, and batch processing command scripts to make complicated processes easy to carry out even for the raw beginner. PDSview is equally at home processing digitised images from any source including your video camera or photo-CD and in addition Spacetech can supply a wide range of remotely sensed spacecraft raw image data on CD or even your own live hook-up to the weather satellites. *Please write or telephone for our colour brochure.*

PDSview is the computerised equivalent of a colour processing laboratory and is almost essential if you want to get the most out of your G8 or CC colour expansion card.

Spacetech's **Weather Satellite Stations** are compatible with all current meteorological satellites, including GMS in Australia/NZ. They are turnkey systems with nothing extra to buy and can even be supplied complete with an Acorn workstation and full installation. There are packages to suit all needs from a simple upgrade to an existing station through to a total professional solution. The Weather desk software has been upgraded to include animation cross-fade, background operation and full colour card compatibiltiy. *Please write or telephone for our colour brochure.*

A 3 disc demo set illustrating sample output from PDSview and The Weather Desk is available for only £5.00 refundable against purchase of either package.
For all Acorn 32 bit machines with RISC OS 3 and 2MB RAM min. Animation Demo Discs require 4MB RAM.)



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Believe it or not, *Keystroke* can actually control any Risc OS program. Imagine a single key press to perform 'Group frames' in Impression, perhaps set 'Text Repel' in a frame to a specific value or a quick key press to turn a frame to the transparent colour! Ctrl+T could bring up !Paint tools window, F1 to mount a disc, F11 to bring up the task display, or F3 to save a file, or save the file automatically every 15 minutes. *Keystroke* can perform these and many more amazing things! *Keystroke* also comes with a !Buttonbar application that allows keystrokes to be used by clicking on an icon. Create your own tools window! A complete Impression tool window is included!

Acorn User - "Try it, it makes life a lot easier!"
Archimedes World - "damn clever, easy to use, best of its kind, 5 out of 5!"
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Keystroke is suitable for all Archimedes running Risc OS 2-3.11 and is offered for only £29.95 fully inclusive. No VAT.
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According to the old song there are more questions than answers. Not in Acorn User there aren't

QUESTIONS & ANSWERS

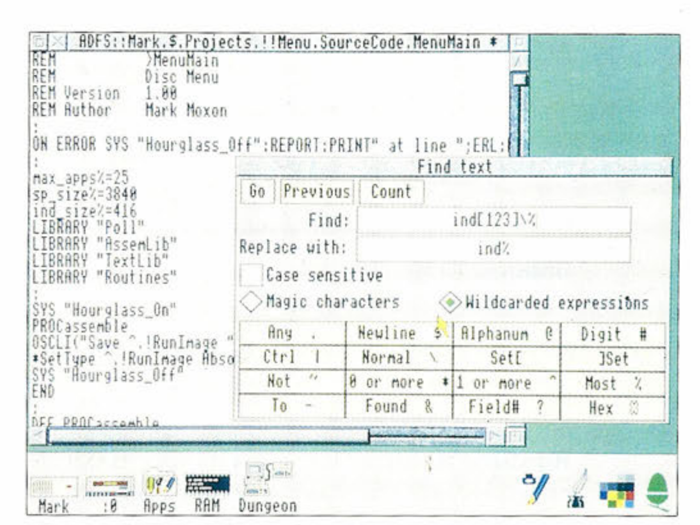
Q Are you sure that you can't use Risc OS 2 *Edit* to create and edit Basic programs, as you state in your Back to Basics article in your August issue? I'm positive I've seen articles on how to do it, but I think that it is not quite as straightforward as using Risc OS 3 *Edit*. Any ideas?

J Whittaker
Surrey

A It *is* possible to edit basic programs using Risc OS 2 Edit, but it's a bit of a pain and cannot really be recommended. The problem is that Basic programs are in so-called 'tokenised' form, which means that Basic keywords like `PRINT` and `REM` are stored not as words, but as single-byte tokens. *Edit*, however, deals not with tokens, but with text, so if you load a Basic program into Risc OS 2 *Edit*, you will just see a mess of bytes and the odd recognisable string or variable name. Risc OS 3 *Edit* contains a routine to convert tokenised Basic into de-tokenised text, so it is readable and editable in the usual way.

However, here's the simplest method to use if Risc OS 2 *Edit* is all you have. Create your Basic program as a text file, complete with line numbers, and save it to disc. Next, change the file type to Basic by using the `SetType` command: do this by pressing F12 and typing `SetType ADFS::HardDisc.$.tmp.MyProg Basic` or similar, depending on where you have saved the program. What you will now have is a file which looks like a Basic program, but is, in fact, a de-tokenised file. You can run it like a normal Basic program by double-clicking, and you can load it back into *Edit* by dragging it to the iconbar, but there is one important point to make: never save the program from within Basic using the `SAVE` command, as this will overwrite the file with a tokenised Basic program, and loading this into *Edit* will produce tokenised gobbledegook.

An alternative method is to purchase an application which converts Basic programs to and from text, so you can load tokenised programs into *Edit*. The public domain contains a number of utilities which perform this job, and there are a number of editors around which can edit Basic programs directly (4Mation's *DBEdit*, Stallion's *StrongEd*, Risc Developments' *DeskEdit* and the public domain program *Zap* are the most popular). It's still very wise to upgrade to Risc OS 3, though.



Risc OS 3 Edit is so much more friendly for programming than Risc OS 2

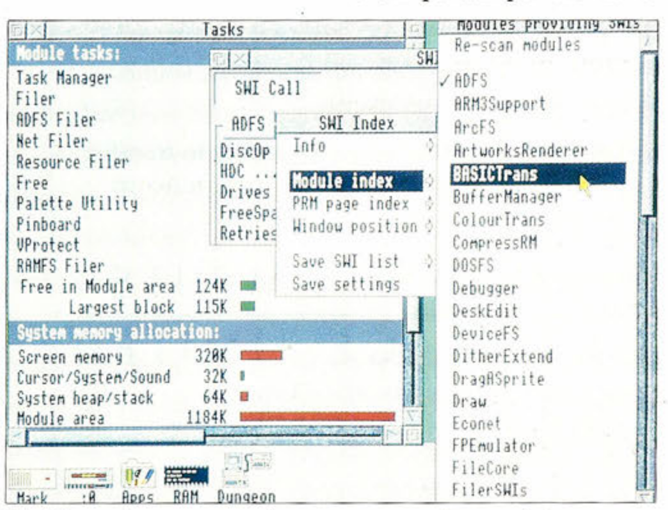
Q I have noticed that when I load a succession of large commercial applications, each of them claims a large chunk of Ram from the module area. When I quit a program the modules are left behind, even though they are no longer required, claiming a large chunk of useful memory space.

I have tried using the RMKill command to remove the unwanted modules, but the protected Ram within the module area remains unaffected. This can represent over 500K of wasted Ram inaccessible to subsequent programs, significantly impairing the multi-tasking capability of the computer. The only way I've worked out to remove the problem is to turn the machine off and on again.

Surely there must be a more elegant way of freeing up redundant module area Ram?

Ian Trimble
Nottingham

A When a module is killed, it is removed from the module area, but the other modules in the area are not shifted down to create more space, so removing



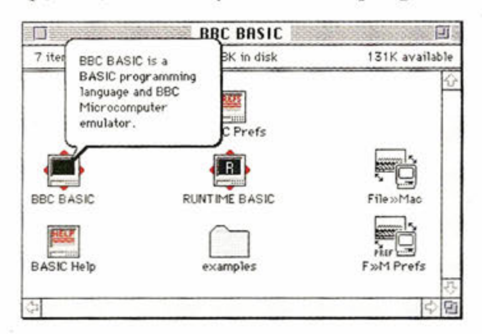
Modules can be very memory hungry, so manage them carefully

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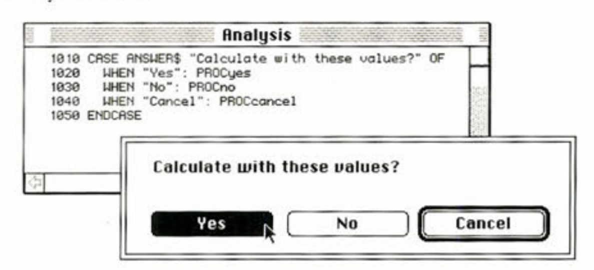


Balloon help provides instant information about the menus and dialogue-box options.

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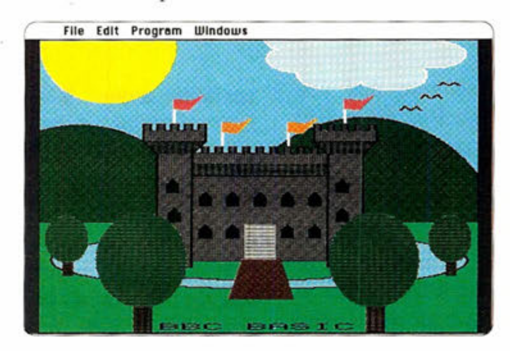
Macintosh Toolbox interface allows you to define your own menus, dialogue boxes, and scrolling lists using convenient BASIC keywords, and use the standard file dialogues for opening and saving data files.

Dynamic tracing and debugging lets you run or step through a program, highlighting each statement as it is executed, and you can display the values of any variables or expressions.

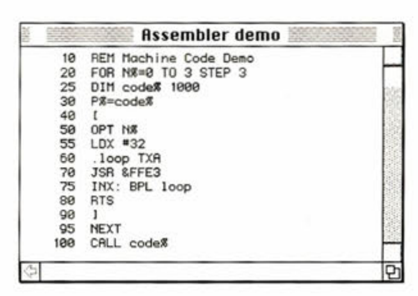
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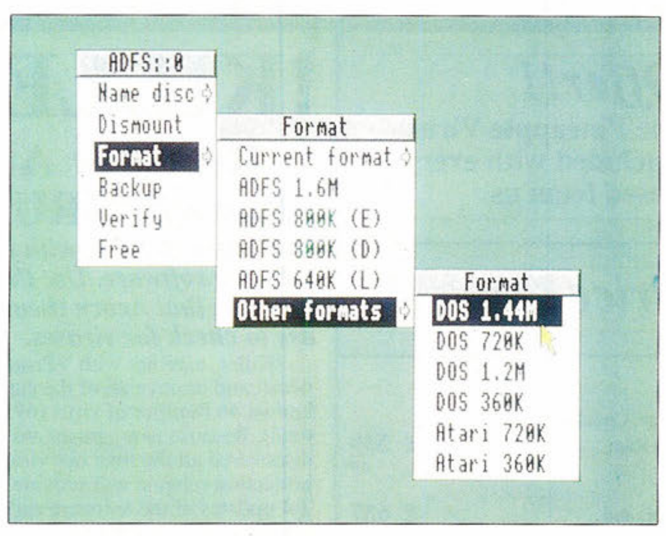
a module does not necessarily enable you to reduce the amount of Ram allocated to the module area. There is a command, however, called RMTidy, which goes through each module, kills it off (thus releasing workspace), moves it down, and re-initialises it. This is great if you are outside the desktop, but of course the Wimp is a module itself, so if you do an RMTidy from the command line (by pressing F12), you get the error 'Module is currently active'.

The only real way to claim back module space is to make sure you kill off all Ram modules, which is no easy task, and a reset is easier. It's not a bug in Risc OS as such, but it would be nice to be able to squash the module area when the desktop is active. C'est la vie, I'm afraid.

Q In March I bought an Acorn A5000, and I've now got a new Hewlett-Packard 550C colour printer. However, it only prints out in black-and-white, and I can't seem to make it print in colour at all. What's going on?

E Thompson
Cleveland

A **The likeliest explanation is that you are using the monochrome printer driver supplied with your computer, rather than a special colour driver which you need. There are three main choices for the DeskJet 550C. Risc Developments sells a standard Risc OS 3 driver for the 550C at £15 + VAT. Ace Computing (now part of Oak Solutions) produces a ProDriver for the HP, costing £39.95 + VAT, which provides enhanced print quality and features such as printer spooling and colour separations. Finally, Computer Concepts produces the 550C TurboDriver, which speeds up printing speed phenomenally and provides a host of features, including background printing; the price is £49 + VAT.**



A serious range of disc formats is available under Risc OS 3

Risc Developments is on (0727) 840303, Oak Solutions is on (0954) 211760, and Computer Concepts is on (0442) 63933.

Q I am having problems with an IDE hard disc I purchased for my A3000. Earlier on this year I also fitted a Risc OS 3.11 Rom upgrade, and when I click on the Free option for the Ram disc or floppy drives I get the new multi-tasking free space display. However, when I do the same with my hard drive, I still get the old Risc OS 2 display which does not multi-task and which hangs up the machine, stopping any file copying and so on until I click the mouse. This is really annoying: what's going wrong?

N Morgan
Southampton

A **The problem lies with the software provided with your hard disc. When you buy an IDE hard disc, it comes with a built-in Rom which contains the filing system for that disc, and it is in this Rom that the code to display the free space map exists. A number of drives are still supplied with filing system code from the days of Risc OS 2, and don't make use of the multi-tasking capabilities of Risc OS 3.**

Your only recourse is to contact the company which manufactures your hard drive, and ask if it has upgraded its software yet: if it has, then you will be able to plug a new Rom into the drive and everything should work as expected.

Q If I upgrade to Risc OS 3, will I lose all the thousands of applications, programs and so on that I've got on my Risc OS 2 discs? Is there some way of formatting your Risc OS 2 discs for Risc OS 3 without losing the things that are on them?

Peter Martin
London

A **This is a very easy question to answer: you will have absolutely no problem using the same discs you formatted on Risc OS 2 after you upgrade. In fact, the new operating system not only supports all the formats available to Risc OS 2 users (in other words ADFS E (800K), D (800K) and L (640K) formats), but also supports seven other formats. Of these, four will be accessible on your machine, which will not contains a high density drive; these are Dos 360K, Dos 720K, Atari 360K and Atari 720K. The other formats will be greyed-out on a machine without an HD drive; these are ADFS F (1.6Mb), Dos 1.2Mb and Dos 1.44Mb.**

If you continue to format your discs using the standard AFDS E format, then this will ensure that your discs can be read and written to by any Archimedes running Risc OS 2 or Risc OS 3.

Q I wonder if you would be kind enough to help with a recurrent problem I have on my A3000. When I try to load a file from a disc, I sometimes get an error message similar to 'Disc error 10 at :0/00001400', for example.

This usually persists and has happened on different discs. Can you please help?

R E Withrington
Essex

A **Disc errors are bad news: they basically mean that the disc has been corrupted in some way. The error message is made up of two parts: the error code (10 in this case) and the disc address (drive and sector numbers). Most disc errors are pretty fatal, and mean you have lost all or part of a file. Products such as *Archimedes Disc Rescue* from LOOKsystems (0603 764114) can save the day, but it's a good idea to know what the error is.**

The error number will give a clue as to the possible fault, but there are two types of error number, depending on which disc drive controller you have fitted. old machines, like the A3000 and A400/1 series, have a 1772 floppy disc contoller fitted, and newer machines, which have high density drives, have either the 82C710 or the 82C711 controller (these two are functionally equivalent).

Error numbers for 1772 controllers have the following meanings:

04 – Lost data
08 – Cyclic Redundancy Check (CRC) error
10 – Record not found
20 – Write fault
40 – Write protect

For high density disc controllers, the codes are:

01 – Controller hardware error
02 – Drive timed out
03 – Track 0 not found
10 – Seek fault
20 – Non-specific command error
21 – Data overrun
22 – Data CRC error
23 – Sector or ID not found
24 – Missing address mark

So bow when you get a disc error 10 on your A3000, you know you've got a 'record not found' error. Handy, eh.

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Learning Curve System

The Learning Curve System can be purchased with the A3010, A4000 or A5000 range of computers. It consists of an audio instruction tape and software including,- Acorn Advance, PC emulator, Rhapsody 2, Scoredraw, Voxbox, Servour, Darryl the Dragon, Topography, Smart, The Crystal Rainforest, Naughty Stories and Arcventure.

Home Office System

The Home Office System can be purchased with the A4000 or A5000. It consists of an audio instruction tape and software including,- EasiWriter, Datapower, Pipedream 4, Prophet, Almanac and the PC Emulator.

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The standard digitiser occupies a double width expansion slot, but the boxed version which is essential for A3000/4000 computers can also be used with A300/400/500 series computers where it will only occupy one expansion slot.

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This adapter fits the A3010, A3020 & A4000 computers, providing a 64 pin expansion socket similar to the A3000. In the case of the A3000 two expansion slots can be obtained. This enables external devices such as our video digitiser to work with A3010, A3020 and A4000 computers.

MEA /2 £28.00 + vat

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The Pineapple PAL Coder is a stand alone unit which provides a coded signal which can be recorded onto VHS or fed to any monitor or TV set with a coded input. The unit is inserted in the lead to the RGB monitor and provides an RGB output for the monitor together with a PAL coded output on a BNC socket. A second version also provides an output in S-VHS format as well as composite. Note that only non-multisync monitors may be fed with the RGB signal.

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Back to basics

What's a control statement? What's a boolean expression? Mark Moxon answers these and many more

Open up a new packet of digestives and crack open a new coffee jar, we're about to start the most interesting part of our journey into Basic programming yet. Yes, it's time to investigate *control statements*.

Take control

So, what's a control statement? Well, simply put it is a statement which changes the flow of program execution. Until now, we've only seen programs which are executed one line at a time, in sequence, starting with the first line and finishing with the last line. Control statements change this situation and enable you to alter which lines are executed, and in which order. Complicated though this sounds, control statements are pretty easy to follow.

The first concept to get to grips with is that of *boolean* expressions. Don't worry about the rather surreal name: a boolean expression is just an expression which can be evaluated to one of two values: TRUE or FALSE. To give you an example, the expression '4>6' would evaluate to FALSE, as 4 is not bigger than 6, and '(2*var1)<>var2' would be TRUE if twice the value of var1 was not equal to that value of var2.

The actual values of the boolean variables TRUE and FALSE are -1 and 0, so if you wrote a program line `PRINT TRUE` it would print -1; this means that we can store boolean values in variables of type real or integer, so these two statements are equally valid:

```
condition=TRUE
condition%=FALSE
```

The first of these statements is exactly the same as:

```
condition=-1
```

and the second is the identical to this statement:

```
condition%=0
```

Listing 1

```
REM >Listing1¶
:¶
ON ERROR REPORT:PRINT " at line
";ERL/10:END¶
MODE 0¶
:¶
var1=1.23¶
var2=2.34¶
IF 1<2 THEN PRINT "1<2: TRUE" EL
SE PRINT "1<2: TRUE"¶
IF var1<>var2 THEN PRINT "var1<>
var2: TRUE" ELSE PRINT "var1<>va
r2: FALSE"¶
IF (2*var1)<var2 THEN PRINT "2*v
ar1<var2: TRUE" ELSE PRINT "2*va
r1<var2: FALSE"¶
END¶
```

The words TRUE and FALSE are just a convenient shorthand to make the program more readable.

The table shows the collection of numerical and string operators which can be included in boolean expressions so for example, the expression `var1%<=var2%` will evaulate to TRUE if the value of var1% is less than or equal to the value of var2%.

Conditional operators

OPERATOR	TRUE WHEN...
A=B	A is equal to B
A<B	A is less than B
A>B	A is greater than B
A<=B	A is less than or equal to B
A>=B	A is greater than or equal to B
A<>B	A is not equal to B
A$=B$	A$ and B$ are the same
A$<>B$	A$ and B$ are different
NOT A	A is FALSE
A AND B	Both A and B are TRUE
A OR B	Either A or B is TRUE (or both)
A EOR B	Either A or B is TRUE (but not both)

If only...

The first, and possibly the most important control statement is the IF-THEN structure, which forms the fundamental building block for decision making in programs. You can



put together an IF-THEN structure in a number of ways, but the simplest is like this:

```
IF cond THEN statements
```

The condition cond is a boolean expression which evaluates to TRUE or FALSE: if it is TRUE, then the statements are executed, otherwise the program moves on to the next line. Notice that if you want to include more than one statement in statements then you should separate them by commas, though a much more readable method is described in the next section.

An extension of the IF-THEN structure is the inclusion of an ELSE part. The whole structure then looks like:

```
IF cond THEN state1 ELSE
state2
```

Here the state1 statements are executed if the condition is TRUE, and the state2 statements are executed if it is FALSE.

To give you an idea of how all this works, have a look at Listing One. It contains a collection of IF-THEN and IF-THEN-ELSE statements. It's all pretty logical (if you'll excuse the rather sad pun), and if you read each structure through, it'll make sense. Don't forget the programs are on the disc, but it's a good idea to type them in yourself, as typing and debugging listings is the best way to learn.

Block structures

The most useful version of the IF construct is the so-called block structured IF-THEN-ELSE-ENDIF structure. This structure spans a number of program lines and enables you to create whole program segments that may or may not be executed, depending on a certain condition. The way it is laid out is as follows:

```
IF condition THEN
...<first statements>...
ELSE
...<second statements>...
ENDIF
```

The first set of statements is executed if the condition evaluates to TRUE, and the second set if it evaluates to FALSE. The big advantage of this structure is that the two sets of statements can include more IF-THEN structures without confusing the issue.

Listing 2

```
REM >Listing2¶
:¶
ON ERROR REPORT:PRINT " at line ";ERL/10:END¶
MODE 0¶
:¶
INPUT "Please enter your name: " name$¶
IF name$="Vivian" THEN¶
 INPUT "Are you male or female? (M/F)" sex$¶
 IF sex$="M" THEN PRINT "Your hair is brown" ELSE PRINT
 "Your hair is blonde"¶
ELSE¶
 IF name$="Kim" THEN¶
  INPUT "Are you male or female? (M/F)" sex$¶
  IF sex$="M" THEN PRINT "Your hair is green" ELSE PRIN
T "Your hair is ginger"¶
 ELSE¶
  PRINT "That name is not known"¶
 ENDIF¶
ENDIF¶
END¶
```

Let's take an example. Say we wanted to write a program which would ask you what your name was, and whether you were male or female, and would then tell you what your hair colour was. OK, this is only applicable if the computer already knows about the hair colour, sexes and names of certain people, but let's assume the information in the table below holds true: apologies for the green hair, but *you* try thinking of a fourth colour.

Now have a look at Listing Two above. This does exactly what we want, and the use of indenting spaces helps to show how the program flows. Remember, only press RETURN when you see the ¶ character: there are two lines in this listing which have had to be split to fit in the box.

Here's a quick breakdown of the program flow, which should be pretty obvious once you've typed it in and it's sitting in an *Edit* window.

LINE 6: Get the name into name$.

LINE 7: If the user has entered Vivian then...

LINE 8: Enter the sex into sex$.

LINE 9: If the sex is male, then the user is male Vivian, and has brown hair, so print that; otherwise the user is female Vivian, and has blonde hair, so print that.

LINE 10: If the program gets here, then the name isn't Vivian...

LINE 11: So check to see if it is Kim. If it is...

LINE 12: Enter the sex into sex$.

LINE 13: If the sex is male, then the user is male Kim, and has green hair, so print that; otherwise the user is female Kim, and has ginger hair, so print that.

LINE 14: If the program gets here, then the name entered is neither Vivian nor Kim...

LINE 15: So print an error message

LINE 16: Indicates end of IF construct that starts in line 11.

LINE 17: Indicates the end of the IF construct that starts in line 7.

LINE 18: End of program.

And the rest

There are plenty of other control structures to investigate, like WHILE-ENDWHILE and CASE-ENDCASE, but that's a treat for next time. Can't wait...

Hair colour

NAME	SEX	HAIR COLOUR
Kim	Male	Green
Kim	Female	Ginger
Vivian	Male	Brown
Vivian	Female	Blonde

ARM3 upgrade with floating point accelerator (FPA) option. £139. ARM3+FPA fitted and tested £199.

The ARM3 upgrade increases the speed of your computer by a factor of 3 (typically), and sometimes even more. Acorn's new floating point chip, the FPA10, speeds up maths operations previously emulated by software.

A 68-pin socket is provided on the ARM3 board, and the FPA chip can simply be plugged in at any time.

The upgrade uses a high quality 4-layer circuit board. It may be fitted to the A305, A310, A440, 400/1 series and the A3000. Installation is straightforward for the 300 and 400 series computers. A 3-day fitting service is available if required. Please note that the A300 series and old A440 require the MEMC1a upgrade.

25MHz ARM3 - **£139**
MEMC1a - **£25** Floating point chip - **£95**
ARM3 with FPA fitted - **£199**

35MHz ARM3 - only £139

We still have limited stocks of these ultra-fast ARM3 upgrades. Some of the most popular Archimedes applications (such as Impression, Artworks and even BASIC V) do not gain anything from the FPA10. So, for those using Impression or Artworks extensively, the 35MHz upgrade is the only logical choice. Please write or phone for full details.

Our usual money-back guarantee applies to all ARM3 upgrades.

A3000 memory - 4Mb £99

An easy to fit and reliable RAM upgrade. **Gold plated** connectors ensure long term reliability. This upgrade uses a four-layer circuit board as recommended by Acorn. No soldering needed.
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4Mb RAM - **£99**
Bare board (without RAM chips) - **£25**
2Mb to 4Mb upgrade - **£63**

A3010/A3020/A4000 RAM

These machines may all be upgraded by easy to fit, plug-in components. No soldering is required.
A3020/A4000 extra 2Mb - **£58**
A3010 extra 1Mb (2Mb total) - **£32**
A3010 upgrade to 4Mb - **£107**

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This month's specials

2Mb RAM for A310	£75
2Mb RAM for A5000	£69
Impression II	£115
Artworks	£120
245Mb SCSI disc inc. card	£370

RISC OS 3

Acorn's new operating system for their range of RISC computers. The old version of RISC OS (2.00) is just 512K long, whereas OS 3 contains 2Mb of code. Many applications which were previously supplied on disc are now contained in the OS ROMs. These include improved versions of Draw, Paint and Edit. Because they are available on ROM they are always instantly accessible, and also occupy less RAM space.

Other features include extra "background" operations. For example, discs can now be formatted or files copied while the machine is used for other purposes.

RISC OS 3 may be used on the A305, A310, A440, 400/1 series, A3000, A540 etc.

RISC OS 3 £41.70
A305, A310 and A440 owners please note. You will need to install the RISC OS Carrier Board in order to use RISC OS 3.. The RCB may be used with any version of RISC OS. This carrier board is compatible with memory boards, ARM3 upgrades and does not in any way obstruct expansion cards ("podules").

RISC OS Carrier Board £18

A5000 systems & memory

A5000 with RISC OS 3, 80Mb hard disc, multisync monitor and ARM3. - **£1399**.
A5000 learning curve. - **£1445.**
Free 4Mb RAM upgrade included in the price.

2Mb memory board (4Mb total) - **£69**
A compact board measuring just 104mm by 49mm, this design fits vertically in your machine. No soldering required. Unlike larger boards, there is no need to remove the disc drive. Four-layer design as specified by Acorn. A bare board (ie without the RAM chips fitted) is also available.

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A range of fast SCSI or IDE internal hard discs with a year's warranty, in sizes from 40Mb upwards. Complete systems supplied with all metalwork and cables. 400/1 machines merely require the drive and controller card. 300 series require a backplane.
40Mb SCSI - **£180** 85Mb SCSI - **£210**
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IDE controller card - **£75**
(add £75 for external version of SCSI discs)

Various

Aleph One 386 1Mb PC Card - **£390 (4Mb £475)**
Aleph One 486 1Mb PC Card - **£490 (4Mb £575)**

**Free price list available upon request.
Prices exclude VAT.**

A300 series upgrade column. 2Mb £89, 4Mb £128

Memory expansion

Extra memory is without doubt the most worthwhile addition to any A300 series machine. Some programs won't even run with only 1Mb, and 2Mb is a bare minimum. Certain applications, desktop publishing for example, benefit from a 4Mb system.

1Mb to 2Mb - £75 1Mb to 4Mb - £128
Upgrade from 2Mb to 4Mb (self fit) **£65**

Compatibility. The memory is detected and used by the machine automatically, so there are no special commands needed. Works with both RISC OS 2 and RISC OS 3.

Fully compatible with ARM3 upgrades, backplanes, hard discs etc. This upgrade is supplied on just one, compact board measuring only 195mm by 46mm. Four-layer circuitry reduces electrical noise for trouble-free operation. The 2Mb upgrade may be upgraded to 4Mb later by the user, without any soldering. A copy of the fitting instructions is available free of charge.

A complete fitting service is available for our RAM boards covering courier collection, installation and testing, MEMC1a, return delivery and guarantee. This is normally a three-day service (eg, collected Monday, returned Wednesday). We have been upgrading 300 series computers for nearly four years, and during that time a reliability record second-to-none has been established.

Is there any other 300 series RAM upgrade wich has been available for as long as this one, and which has the same reputation for quality and reliability? No.

Still not sure? Compare it with the competition before making up your mind. Use our 14-day money-back guarantee to check it out for yourself.

RISC OS Carrier Board £18
This is an easy to install adaptor board for the larger RISC OS 3 ROMs. A set of links on the board allows it to be used with RISC OS 2 and easily adapted for RISC OS 3 later. Suitable for use with the A305, A310 and A440. The adaptor has been fully tested with RISC OS version 2 and version 3. It is fully compatible with other hardware upgrades such as the RAM board described above, ARM3's, backplanes, VIDC enhancers and expansion cards.

4-slot backplane with fan £52

Combination deals

4Mb with MEMC1a, self-fit **£152**
Collection of your computer, installation of 4Mb of RAM, MEMC1a, and RISC OS Carrier Board, testing, full guarantee, and return delivery **£189**
As above, but with 2Mb of RAM **£125**
(Add £40 to have RISC OS 3 fitted at the same time.)

RAM for 410 & 420

Upgrade from 1Mb to 2Mb - **£33**
Upgrade from 2Mb to 4Mb - **£65**
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Dave Lawrence and Dave Acton present their monthly mix of programs, for all Acorn users

BLEND

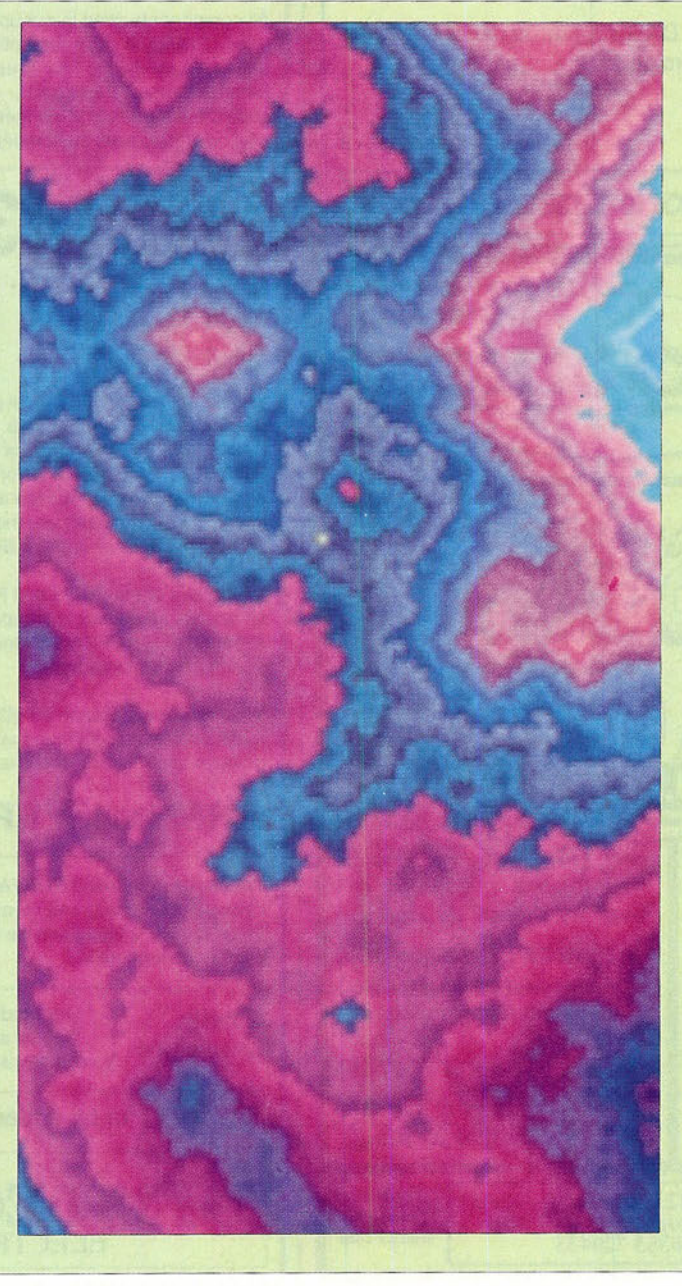
Fractals can come in many shapes and sizes and this month we have a rather pretty fractal number which was devised and sent to us by Chris Rijk of Cheltenham.

As with many such demos, a picture is produced using a fairly simple formula and you are presented with a zoom box. You use the middle and right mouse buttons to alter the size of the box; then press the left button to generate the next image. Even if you don't understand the technicalities, it is still possible to while away the hours in pursuit of the perfect fractal. Chris describes his creatlon thus:

'Blend works by finding the maximum variation possible between the values at two (or more) points.

'It then plots, in the middle, random values from that range so that values differ by a maximum of the separating distance in pixels. It carries on, decreasing the separating distance in factors of two, until it reaches one pixel.

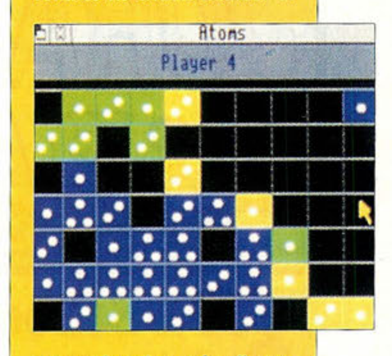
'Once a blend is complete you can zoom up the current screen. I originally designed it so different-sized blend areas could be used, but the process is so fast you might as well do the largest possible.'



DESKTOP ATOMS

Way back, we featured a tactical game called *Atoms* by Adrian St John. LC Howe added a computer-play algorithm and now, a fully multitasking version – *Atoms* – has been written by Niall Douglas.

Players take turns placing an atom on the board. You put an atom of your colour in an empty square or add it to a square containing atoms of your colour. If a square reaches its critical number of



atoms (number of adjacent squares: four for the middle, three the sides, two the corners) they spill out causing a chain reaction.

When an atom bursts into another square any atoms there have their colour changed to the intruder's. The aim is to wipe out the opponents' atoms. This is Niall's first application and he's done a great job.

Gnome Computers Limited

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X Window System R11.4

This software package, developed in association with Acorn Computers, converts a RISC OS based Archimedes into an X Terminal. The software will allow communication with X clients over Ethernet or Econet. Graphic support includes both the state machine G8 and Computer Concepts ColourCard.

X Software	£199
Complete Colour X Terminals from	£1150

Archimedes upgrades

External SCSI 200MB H/D + Acorn SCSI Card	£780
External SCSI 1.2GB H/D + Acorn SCSI Card	£1340
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External 8GByte SCSI DAT Tape Drive	£1450

RISC OS SLIP & BIND

This package gives SLIP & DNS support for Acorn Computers TCP IP suite version 2.

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UNIX & Network Specialists



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A3000 Serial upgrade kit		15.00
305/310 memory	4 Mb	127.00
Risc-OS3 carrier board		17.00
MEMC1a upgrade kit		24.00
An efficient three-day fitting service is available, which includes: courier collection of your machine, fitting of the above three items, testing and return for a special price of		185.00
A400/1 memory	1 Mb packs	36.00
PLCC extractor tool for MEMC and ARM3		8.00

All components used in our upgrades are brand new and not previously used. Salvaged chips are unlikely to have always been handled under anti-static conditions. As a result it is impossible to guarantee the long-term reliability of these parts. It would be unfair to sell goods containing such inferior parts and we therefore regret we are unable to take items in part exchange from customers wishing to upgrade.

ARM3 + FPA = £199

We are still offering a special package price for our ARM3 upgrade board complete with fitted FPA chip. The upgrade plugs easily into a 300, 440, A400/1 or R140 machine, but 305/310 and old style 440s will also need upgrading with a MEMC1a for an ARM3 to work correctly. The upgrade's ultra-low profile construction allows it to be fitted to an A3000, although in this case a motherboard modification is required which can be carried out by ourselves or another Surface Mount Service Centre.

Integration of the ARM3 and FPA socket onto a single 4-layer PCB eliminates any possible interconnection problems that could occur with a separate plug on FPA adaptor, as well as avoiding the cost of purchasing an extra board.

We also offer the same ARM3 upgrade but with empty socket. This retains the option of fitting the FPA at a later date, when the chip can be plugged into the vacant socket if desired.

ARM3 with FPA socket - £129

We are an authorised SURFACE-MOUNT SERVICE CENTRE fully capable of servicing and repairing Acorn computers to component level. We also offer a fitting service for any of the above upgrades - please contact us for details.

Quality Assurance Our products are designed and manufactured to the highest standards by SIMTEC in the UK. Everything we sell is rigorously tested and fully guaranteed.

17½% VAT to be added to orders. Carriage free in UK.



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FRAMES

Regular readers will probably remember Tim Jones' excellent three-dimensional *Dots* program from April this year. *Frames* is an equally good offering.

The *Frames* program comes in two stages; you are let loose on an empty screen, to design a 'structure' (or frame) from points and links. Clicking Select will add a red dot to the screen; holding down Select will then create a link; releasing the button creates a further dot.

Alternatively, moving close to an existing dot will highlight it with a yellow circle and releasing the button will join the link to that dot. Further links can be added to an existing dot in a similar fashion by commencing a drag from it.

The Adjust button does precisely that; it allows you to adjust the position of existing dots. Simply Adjust-drag the offending pixels.

Once you are happy with your framework (just try a few simple shapes to start with) press Space and gravity will be switched on. The framework will then obey the laws of gravity, elasticity and bounciness. So it will fall, distort and bounce off the sides of the screen. By using the mouse, you can grab hold of a point in the frame and drag it around, spin it about and generally throw it all over the place.

There are various other control keys that vary the program; D toggles the plotting of the actual points in the framework; P pauses the animation until another key is pressed; S resets to the initial state (useful if you lose the frame off the screen); T switches on Adjust mode and Space takes you back to the editor.

In Adjust mode, the gravity, tautness, bounce and drag of the Frames 'universe' can be altered. Select the parameter with the left and right cursor keys and adjust the value with the up and down cursor keys. A further press of T will switch off Adjust.

One other feature available to you is anchor points. These are created with Menu instead of Select. They can be linked and moved in the same way as ordinary dots, but they are plotted in green and are not affected by gravity in the simulation stage. One final key is R, this clears all dots and links in the editor.

SHATTER

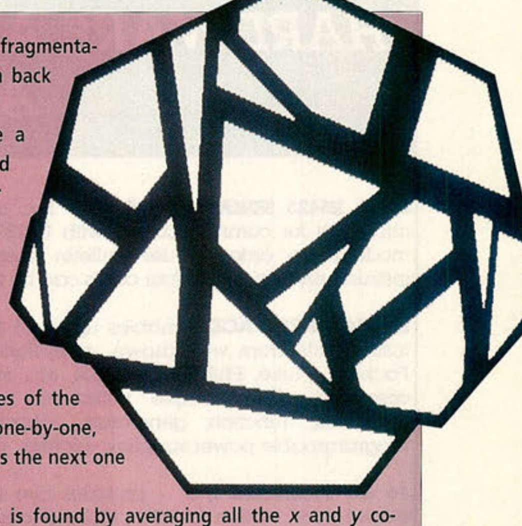
Firstly, apologies to our favourite Danish regular contributor, Jan Vibe, for suggesting last month that he is in fact Dutch!

We get a lot of submissions from both countries (and largely from people called Jan it seems) so we tend to get a bit mixed up between our European countries sometimes. Anyway, apologies to Jan for changing his country of residence.

Jan has come up trumps again this month, with another program for us. This month's Vibism is a very convincing simulation of a piece of glass (or something suitably brittle) being smashed into pieces.

Jan says in his letter: 'maybe someone can use this for something.' Well, maybe someone can; if you come up with any useful application for this we'd like to hear from you – in the meantime just enjoy Jan's demo.

There are two listings here in fact – *Shatter* and *Shatter2*. Both of these listings work in the same way, except that the latter stores the stages of fragmentation and then plays them back at the end.



Jan's program is quite a cunning little number and the way it works (more or less) is as following.

Firstly, a polygon with a random number of sides is created. This shape is then shattered into 50 pieces.

Then, the current pieces of the original are examined one-by-one, and the largest is picked as the next one to break into two.

The area of a polygon is found by averaging all the *x* and *y* co-ordinates of the vertices to find a mid-point, and then adding up the areas of all the triangles formed between the mid-point and the sides.

Having found the biggest chunk, the longest side of that chunk is selected for breaking. Then, another side is chosen randomly and the polygon is severed between the two.

The split occurs either a third or two-thirds the way along the side. Having split the polygon, the co-ordinates of the two parts are entered into the list and the shattering process continues. The end result is very convincing.

A real-time machine code version shouldn't be too difficult and would look very impressive, we think – any offers?

REBOUND

Keeping with the bouncy, gravitational feel of *Frames*, our next item is Chris Bassett's *Rebound*, a surprisingly-fun game.The screen consists of a large box with a number of obstacles dotted around; you are a microdot and start at a random position up the left-hand side of the screen.

You move at a constant horizontal speed but your vertical movement is affected by gravity. You bounce off the obstacles in the playing arena, but die if you move off the screen. The idea is to escape off the right-hand side. Your only control is Space, effectively a thrust key, which can be used to control the gravitational effect.

The longer you stay in play, the more points you score. By the way, to achieve a high score, you have to do more than follow a 'straight' path across the screen.



COMPETITION RESULTS

We had a good response to our June Life for 2 competition and are pleased to announce the winner – Mike Cumpstey of Altrincham. Special mentions go out to David Marples of Oxford for coming second and Ian Cumpstey (Mike's son) for coming third. Mike's winning entry, *cumpstey1*, is on the monthly disc.

We are giving the programming competition a rest for a while. By way of letting you down gently, we have a suggestion from Stephen Scott of Egham. He was playing with a Barcode Battler in a toyshop and wondered if the idea could be converted to the Archimedes.

We thought that instead of scanning barcodes, files or directories could be dropped on an icon, this would perform a CRC (cyclic redundancy check) to come up with an effectively-random number based on that file.

This number could be used to generate warriors, wizards, weapons and anything else beginning with W. Battle would then ensue.

POKESERIAL

Patch 1 and Patch 2

These two patches were supplied by Nick Craig-Wood. The first corrects an oversight in the old-style serial driver interrupt routine for 65C51 chips found in pre-A5000 machines.

In the original, when the serial interrupt is handled, the OS changes from IRQ mode to SVC, but forgets to disable interrupts. If the machine is busy (maybe running in the desktop under Risc OS 3) one character may be delayed so the second character arrives while the first is being processed.

Because the interrupts are not turned off, the second character overwrites the first and the first is missed entirely. The poke ensures when the OS changes from IRQ to SVC, interrupts are disabled.

To test the poke, a 66222-byte file was pipecopied from an A5000 to an A400 with ARM3 from the command line in Mode 12. The tests were run with standard size serial buffers of 192 and 255 bytes for transmit and receive at 19200baud.

Number of characters lost over the link

	Standard	Poked
ARM2	167	5
ARM3	39	0

Most comms programs (*Arcterm* and *Hearsay* for instance) install a larger buffer under Risc OS 3, which improves the performance further. In the course of investigations into the serial device driver it became obvious where the baud rate table was stored for the 82C710: the device in the machines from the A5000 onwards.

With the help of the technical reference manual it was possible to decode it and provide a utility for changing the available baud rates. Unfortunately, this can't be done with the older 65C51 device.

You will notice if you run the program that the 82C710 cannot generate exactly the right frequencies for the baud rates. This is because it is driven with a clock derived from the 24Mhz system clock rather than having a separate crystal (for cost reasons). The patch finds the nearest baud rate to that asked for.

You can try using 38400baud with the poked serial device driver. However, you may not find it perfectly reliable in larger screen modes, and without an Arm3.

To apply the patches you need to RMSave the SerialDeviceDriver module to a file of your choice. Run PokeSerial and give the file name of the file you saved, when it asks. Now follow the instructions. Type in a filename for the poked module when prompted.

You need to load the poked module before you start using the serial port. You can do this by double-clicking on it or including an RMLoad in your *!Boot* file.

VERBS

This should assist all those struggling with the irregularities of the French language; it's a full multi-tasking desktop verb tester. 15-year-old Chris Allen describes his utility:

'This application takes a lot of the boredom out of looking up irregular french verbs while you are writing an essay. It runs in Risc OS and, when you double-click on the icon, it loads up a window containing a number of icons.

'The "French" icon lets you type in an irregular French verb (aller, for example) and, when you press Return, the program searches for it. If you do not know the French, but know the English (to go) type that into the "English" icon. The program will search for it.

'If you just want to browse through the verbs you can do so with the arrow icons. There are about 50 verbs in its memory.

'Once it has found a verb the program will display some of the verb's tenses (say, present, perfect and imperfect). It will also show how the verb form changes as its subject alters (je, tu, il ,elle and so on). This information is all displayed in the table in the window. Some verbs bring up a notice at the bottom of the window.

If you click on this message the program will automatically go to the other verb mentioned.

French Verbs

Irregular French Verb Utility

Chris Allen (15) © BAU 1993

French: venir English: to come

	Present	Perfect	Imperfect
je/j'	viens	suis venu(e)	venais
tu	viens	es venu(e)	venais
il/elle/on	vient	est venu(e)	venait
nous	venons	sommes venu(e)s	venions
vous	venez	êtes venu(e/s)	veniez
ils/elles	viennent	sont venu(e)s	venaient

DA's :0 Apps RAM :0

Walkthrough of Frames

If you're fairly new to programming, you may like to study the follow brief outlines of the functions and procedures defined in Tim's Frames program.

PROCinit – initialise variables and arrays of dot positions, speeds and linkages.

PROCedit – interact with the user, reading the mouse position, checking for nearby dots, acting on mouse clicks.

PROCcheckdot – called by PROCedit, creates new dots, drags existing dots, redrawing links if necessary.

FNdrag – wait until mouse is moved from the current dot or mouse buttons are released.

PROCdragdot – (REPEAT loop) drag an existing dot, redrawing links, highlighting nearby dots. (after REPEAT) if link is attached to an old dot, shuffle framework and delete the 'extra' dot. Recalculate lengths of links connected to this dot.

FNfinddot – scan through array of current dots and return one if it is within a certain (small) distance of the given point.

PROCnewdot – add a new dot to the system.

PROCdeldot – delete a dot (and any associated links).

PROClink – (REPEAT loop) drag a new dot. (after REPEAT) add in this new dot and create the link data including its (untensioned) length.

PROCdellink – delete a link.

FNdist – distance between two points.

FNlink – returns the link number of a link connecting two points.

PROCerror – handle errors gracefully.

PROCswap – swap displayed and updated screen banks.

PROCredraw – redraw all links (and dots if asked).

PROCnomouse – wait until all mouse buttons are released.

PROCanimate – gravitate and bounce! (Up to PROCmouse) handle all keypresses to change parameters. (After PROCmouse) calculate movement of framework, allow for mouse to drag a dot. (After FOR dot=0 to dots) bounce dots off the sides of the screen and apply 'tautness' to each of the links moving the dots accordingly.

PROCmovedot – move a dot (if it's a movable dot).

PROCmovepos – calculate movement of the dot.

PROCclear – clear dots array.

PROCrec – set the mouse bounding box.

PROCmouse – return mouse co-ordinates to the nearest 4 OS units (1 pixel).

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Archimedes, A3000, A5000 Software

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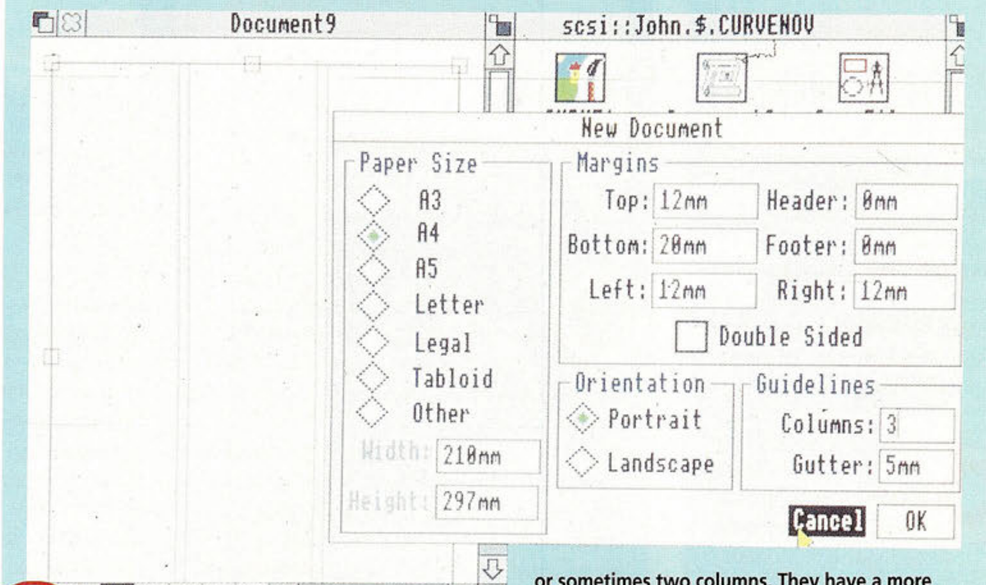
Read all about it as John Rennie shows you the DTP skills needed to produce a one-page newsletter

LEARNING CURVE

Over the past three months we have looked at some of the nuts-and-bolts stuff of using the Archimedes. You have learned how to write, how to draw and how to paint pretty pictures. OK. Now that's out of the way we might as well get straight on with the serious stuff. Let's produce a newspaper.

Well, alright. I've only got two pages and you are not Rupert Murdoch with a staff of hundreds. What we can do is produce a one-page newsletter that demonstrates the basics of laying out an editorial page with a cheap DTP package.

At £99, *Ovation* isn't as fully-featured as some, but it is quick to get the hang of and the essence of layout is doing the simple things well. *Ovation* has the tools for the job.

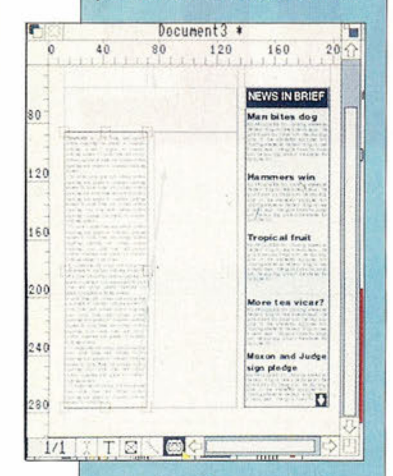


1 First load *Ovation* on your iconbar with a double-click. We need to decide on page layout first. Take a look through *Acorn User* to get an idea of how different layouts are used for different pages. News is given four columns, broken into small stories, shorter stories to the bottom of the page; the photo is at the head of the story, and all the space on the page is used; the effect is busy. Features are longer, at least a page, and over three or sometimes two columns. They have a more flexible layout; the text is broken by display quotes and crossheads (see below) and pictures, even headlines, do not have to appear at the head of the story. Anything goes, but before you start playing around you need the discipline of a layout. Hit the Menu mouse button over the *Ovation* icon and select New Document. Most of the defaults are fine for this job: A4 paper size; portrait (upright). Our page combines news and features, so we use a three-column grid. Click OK and the page is up.



2 The toolbox is at the screen base. The application is based on boxes: text can only sit within text boxes, selected by clicking on the 'T' tool; graphics can only live within graphics boxes, produced by the third tool. Click on the T, move to the page, click again and the pointer changes to a crosshair. Position at the top-left of the third column, click again and drag out the text box to cover the whole column. Where you release the mouse button the box stops; it snaps to the column guides and, for fine-tuning you reshape the box by dragging out the red edge boxes shown. Go into the main menu and select Object. Go to Modify Frame and change the colour setting in the dialogue box to light grey. This is the first step to creating News in Brief. For the title box, repeat with a smaller text box and tint black. Drag out the edges until it is flush with the main box. Clicking in this box activates the text tool. Set Font to 18 point Homerton Black and centre it in the Format submenu. The box text is Homerton. There is no need to create new text boxes: the headline box automatically repels copy in the larger box. Headlines are as 'news in brief' but upper and lower case. Body copy is standard Homerton nine point with 20 per cent leading – so space between the lines is 120 per cent the size of the characters. If headlines don't fit, as with the final story, squeeze the horizontal plane: here, Horizontal Size is cut from 100 to 90 per cent.

3 Now for your main feature. Use Trinity 9 point for body copy. This has a softer look than the news. We start with a capitalised first word. Click in the Format submenu and make sure the text is justified (flush to both column gutters) unlike news. To allow copy to run into successive columns, link them. Click on the rightmost tool (the chain) then Select and drag from column one to column two. An arrow shows the text flow.



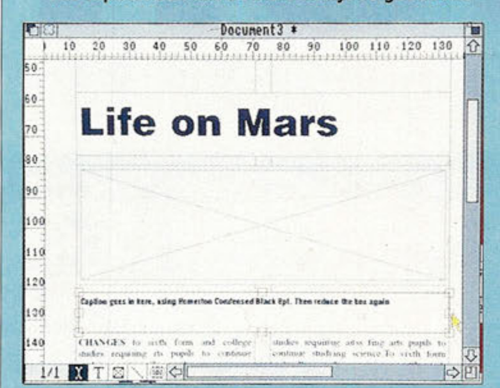
4 The crossheads – Shock, Horror – break up the text. After a crosshead, ensure your paragraph starts full-out to the left. Subsequent paragraphs are indented. Our quote is designed not only to break the text but to hook the reader. Draw a text box over your body copy; this repels the body text. Using the same typeface at 18 point, type in your quote and centre it.

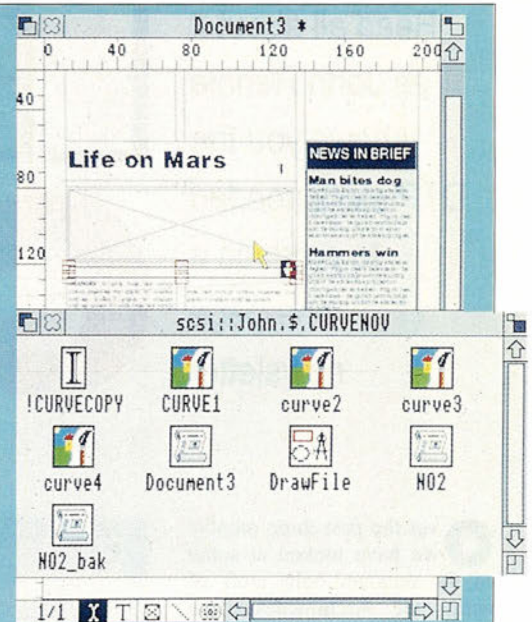


5 Now for your headlines, picture and caption. The headline text box is drawn out, as before. This time the font we use is 36 point Homerton Black.

The size of the picture box is a moveable feast, depending on how much you can cut and therefore shift down, your body copy, and how much you can crop your picture to fit. Whether you use a one- or two-deck headline will, likewise, depend on these other factors. You have to use your judgement to juggle the elements to fit.

The caption box can be a bit fiddly. To get at this it is best to use an oversized box to start. Type in your copy in Homerton Black Condensed 8 point; then when you know that you have got it right, just squeeze the text box to size again.



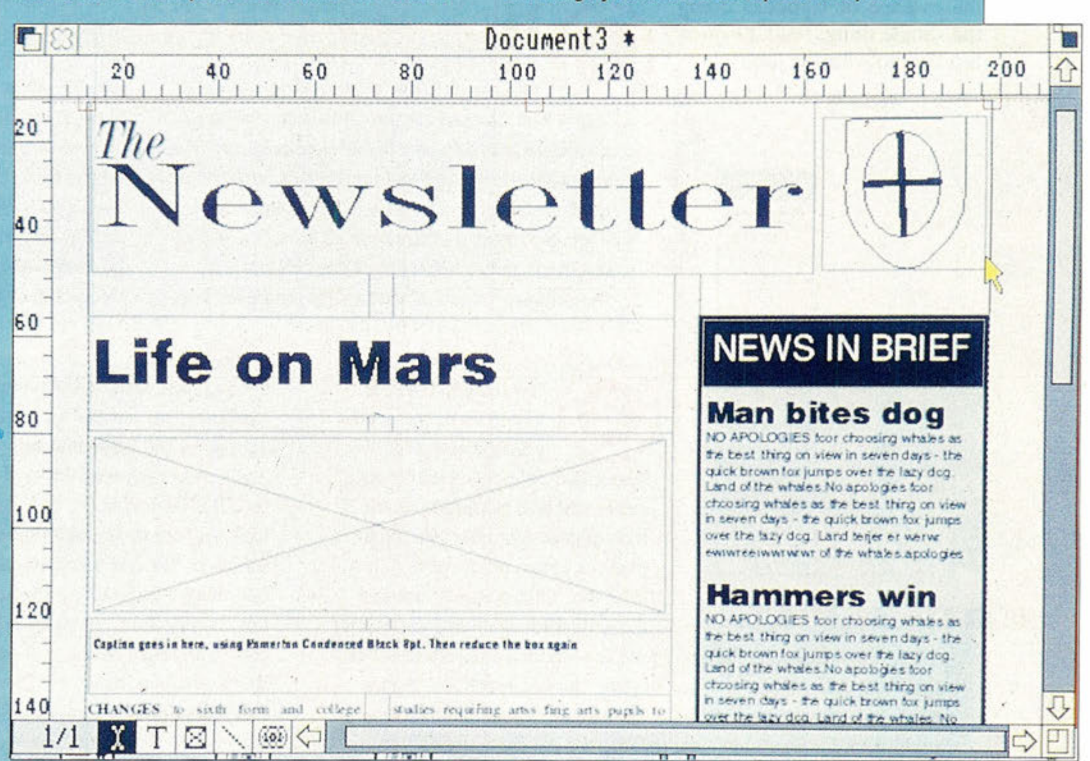


6 Finally your masthead and logo. The masthead (title) is in Italian font. This makes a stylish contrast to the harder news face and the conventional font we have used for features.

The 'The' is then put into superscript and italic. 'Newsletter' is then stretched horizontally by 180 per cent. You will find these in the Style submenu. By using Leading, in the Format menu, you are able to reduce the vertical space between the two words. Then you can return and backspace between the two words until you are happy with the space between the two.

Kerning, in the Style menu, allows you to narrow the gaps between the letters in 'Newsletter'. This means you can stretch the word without ludicrous amounts of open space.

For the logo, simply draw a graphics box and drop in the Draw file or Paint sprite of your choice. You can design your own or use a piece of clip art.



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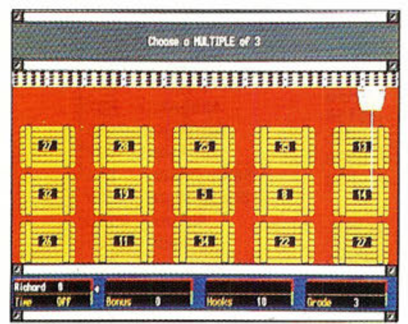
DATA STORAGE

Play school

Applying gameplay to teaching is a great idea... in theory. Richard Garrett finds some games meet the dual demands better than others

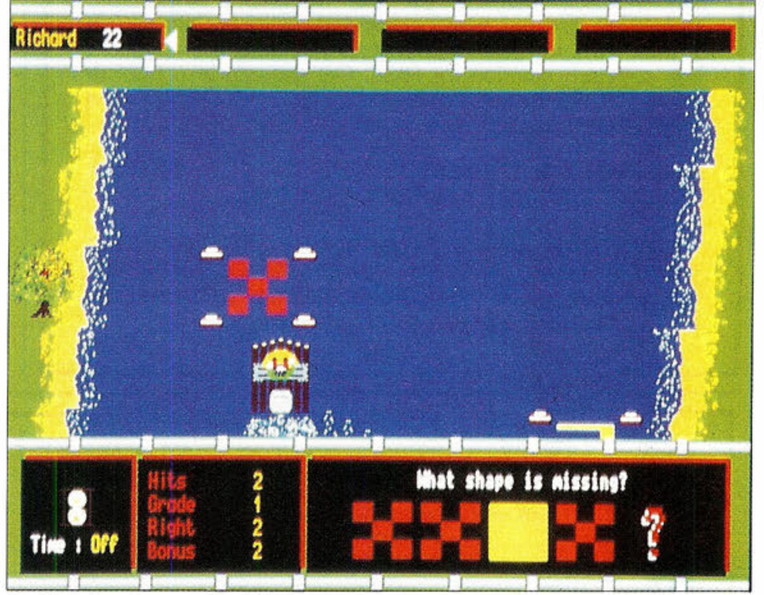
This suite of educational games for students of ages six to 16, is designed to complement Attainment Level 3 (Algebra) of the Mathematics National Curriculum.

Each full-screen game: *Graphoid*, *Processor*, *Chain Up*, *Hook It!*, *Turbo Raft* and *Rib Tickler* has six levels and sends results to an in-built marking system, which shows how the player is progressing. *Graphoid* is an outer space variant of



Up the creek without a pattern

Battleships. At lower levels, this means identifying co-ordinate pairs but higher levels require you to map points on to straight lines and move the ship into safe regions. *Processor* depicts a machine, on which columns of numbers are connected by a mathematical operator and a number. To play, the child fills in blank spaces in the columns by selecting right numbers from two conveyor belts. Problems start with simple addition and subtraction, up to interpretation of formulae and inequalities.



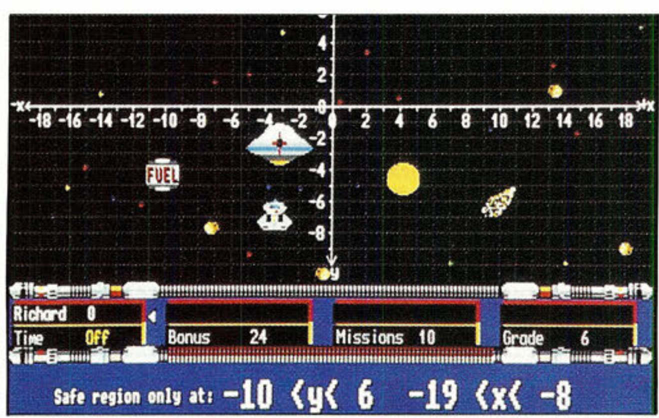
Hookit trying to grasp the right answer

In *Chain Up*, the screen is split into two and the child connects facts in the bottom half of the screen to those in the top. This means matching pairs of odd and even numbers, matching co-ordinate pairs and straight line formulae to graphs, and identifying common graph families (straight lines, squares and sine curves).

In *Hook It!* the child answers by directing a hook towards their choice number or formulae. To make things harder, the answers displayed change rapidly so, just as you think you've got the right one, it disappears. The tasks include completing numeric sequences, recognising algebraic terms (square, multiple, factor, cube) and solving linear equations.

Turbo Raft is an arcade game where children answer questions by driving a boat up a river, running over correct answers in mid-stream while avoiding incorrect ones. Most tasks are completing sequences of shapes or numbers. This is the game I found most fun to play but it's pretty slow. Finally, *Rib Tickler* is a multiple choice quiz about algebra.

The chief selling point of this package is its marking facilities. When a child completes a game level he receives a score and a verbal rating ranging from pathetic (not very encouraging) to genius. These scores are stored and can be displayed in an Achievement Record. This table correlates game objectives with specific National Curriculum attainment target levels.



Graphoid: in space, no one can hear you doing algebra

Conclusion

Although the marking in this Algebra package is sophisticated, the games range from mildly entertaining (*Graphoid*, *Turbo Raft*) to dull (*Hook It*). For kids who have tried real computer games, thinly disguised tests are not likely to hold their attention for very long.

Of course, it's good to see software that helps with the National Curriculum, but it seems a shame not to depart further from this traditional approach.

Product details

Product: Maths Algebra
Supplier: 10 out of 10 Educational Systems
Tel: (0742) 780370
Price: £25.95 including VAT.

Spelling it out

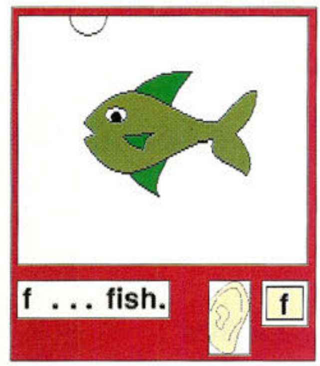
Alice Smith looks at Letters, a Genesis application which uses games and graphics to teach letter recognition to the very young

This Genesis application from Oak Solutions sets out to teach very young children letter recognition and letter sounds. The letters appear in threes and fours on eight discs.

There is no set way of grouping letters and I have no complaint about the way it is done here. The 'stick letters', for example are l, t, i and j; the 'yo-yos' are r, n and m; c, o and a are 'roundabouts'.

Load a disc and you are presented with a choice of letters to click on. Make your selection and you opt for Look, Write or a picture of an eye, which stands for I spy.

In Look, a short animation shows your letter turning into an object which begins with it. Click on an ear icon and you hear the letter sound and relevant word. Write demonstrates how the letter is formed, again with a brief and clear animation. There are written and aural instructions. The eye icon brings up a picture. When you click on the objects with the appropriate initial letter, for example a cat, a camera and a cake, they appear at the bottom of the screen.



Demonstrating the use of a letter

When you've worked through all the letters in the group, go back to the first screen and choose the Play option, symbolised, rather oddly, by a dice and shaker. Oddly because this is a Pelman game in which, playing against each other, children must match letters and objects.

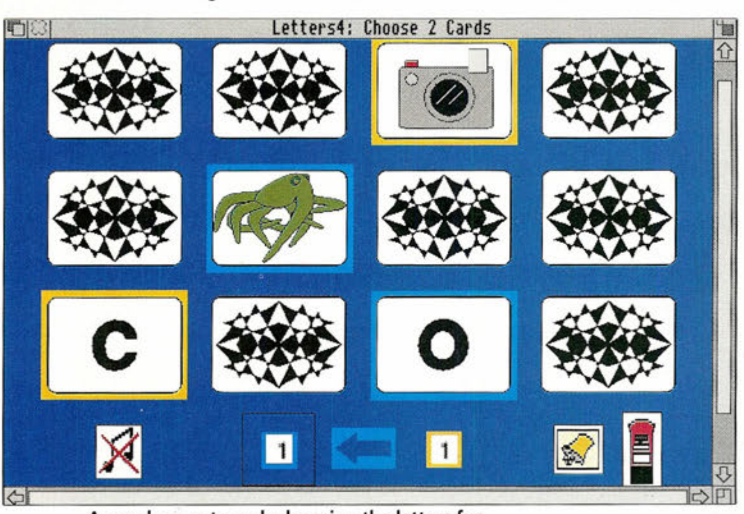
A set of photocopiable worksheets is included in the package. There are four which associate each letter with two objects which begin with it, and then one for each letter, showing how it is formed and encouraging children to practise writing it.



Bright, strong and colourful graphics work well on screen

The graphics are great. Bold, colourful illustrations are well suited to computer screens. On the whole, the animations are pretty good. However, I have two major reservations.

The first is to do with the way the letters appear on screen. Obviously approaches to handwriting and letter formation differ, but these letters have no 'tails'. To my mind, if children initially learn to construct letters with tails, when the time arrives to try joined-up writing it will come more naturally; their handwriting style will be more fluid.



A word game to make learning the letters fun

My other concern is sound quality. Learning letter sounds correctly is so important that I'm not sure it should be left to a computer, particularly when the speech synthesizer is so inaccurate. The 't...t...t' which prefaces the enunciation of the word 'teddy' sounds like a pair of boots crunching in snow.

A letterbox motif is used throughout – you click on it to return to the previous screen – and the letters appear on envelopes. It's a minor criticism but I feel the dual meaning of 'letters' (those you make words with and those you post) could be confusing. Although it would have meant more discs, I also wonder why this resource stops with individual letters and doesn't cover blends and common letter groupings. Despite that, *Letters* is worth checking out. The idea is simple so you'll know if it is useful in your teaching.



Forming the letter shape

Product details

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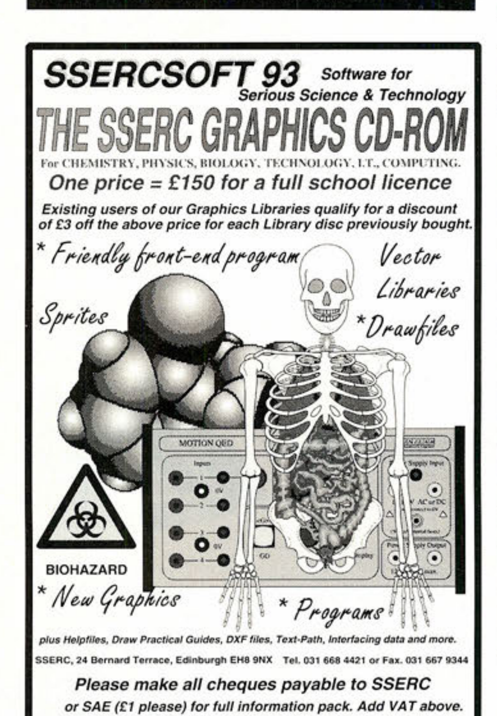
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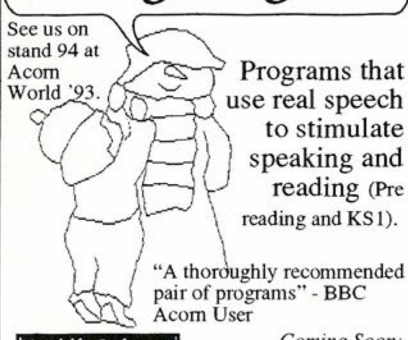
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Packed with classroom resources, this disc has a range of materials that explore all areas of the curriculum. The disc includes classroom posters, a selection of European maps and many complete lesson resources to use with popular applications.

Use the dinosaur clip art in *Datasweet*, tackle data collection with ready-made forms for *Junior Pinpoint*, discover probability using *Eureka*, teach letter recognition with *My World* examples and much more.



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THE ACORN USER HANDBOOK

Available exclusively to Acorn User subscribers

Getting to know your machine is a vital part of learning to use your Acorn computer to its full potential, but who wants to wade through piles of manuals to get at the hard facts?

The *Acorn User* Handbook is a 48-page guide to getting the most from your computer, with five major sections covering every aspect of your machine.

Understanding the hardware beneath your computer's bonnet is vital if you are to understand how the computer actually works. The hardware section of the handbook examines all the components of Acorn computers from processor chips to floppy disc drives to expansion ports.

For all those thinking of expanding your computer, there's an in-depth look at all the peripherals available, such as printers, modems and scanners: decide what you want with our expert guidance.

Risc OS is the most important part of using an Acorn as far as most people are concerned, and the most important aspects are covered, along with loads of hints and tips to help you use your computer more efficiently. The desktop is dissected, there's a detailed look at optimum configuration settings, an explanation of all those error messages which crop up, and how to avoid them; the list goes on. Read this section, and you'll find the desktop far more friendly than you thought it could be.

Software makes computers as powerful and as popular as they are, but the range of Acorn software is daunting. Thinking of buying an art package, or a decent word processor? The handbook explains all the categories you'll come across, and tells you the most popular products you should be thinking about.

The final section is potentially the most valuable of all: the one-and-only Acorn Glossary. Jargon-busting is the trickiest part of getting to grips with computing, and with the handbook by your computer you'll be able to understand phrases like 'clock speed of 33MHz' and 'Risc Chips execute machine code instructions faster than Cisc chips'. Invaluable, and fascinating reading. Illustrated with colour pictures and photos throughout, the *Acorn User* handbook will turn you into a power user who can really use Risc OS machines. Don't get left behind: read the only manual that matters.

Finding your way round the desktop

The Pinboard. You can drag any files, directories or icons to the Pinboard, and they will stick there. The Pinboard acts just like the normal Filer, but deleting icons does not delete the files themselves: the Pinboard icons are just pointers to the items on disc. You can save the state of the Pinboard, or include the details in a boot file so your favourite applications appear every time.

A directory window, or Filer window. From this window you can access files on disc. Visible in this window are a boot file, a font folder, the scrap directory, the system directory and a number of directories. The title of the window shows the filing system (ADFS), the name of the disc (HardDisc) and the directory being shown ($ – the root directory). Clicking Menu over this window brings up the Filer menu, which looks like this:

Filer
Display
Selection
Select all
Clear selection
Options
New directory
Open parent

A typical desktop window. In this case it is a document in an editor (*Impression*). This particular window has cream-coloured icons, which means it has the input focus: any keys pressed will be reported to this window, so any text typed will appear in this document, and any function key-presses will relate to *Impression*. The window could be iconised onto the Pinboard by clicking on the close icon with SHIFT held down; an icon would appear on the Pinboard, and double-clicking on that icon would bring the window back.

Back: click to put window to back

Close: click to close window

Toggle: click to toggle window size

Size: drag to alter window size

Scroll arrows: move around document

Application icons appear on the right-hand side of the iconbar. In this screen shot the applications from left to right are: *Help, Draw, Edit, Paint,* and *Impression*. The two on the right (*Palette* and the Task manager) are special, and are described below. Click Menu over any icon to bring up an iconbar menu, which will include the Quit option to kill off the application. Not all applications install themselves on the iconbar in this way, but the vast majority do.

Device and filing system icons appear on the left-hand side of the iconbar. Devices represent printers, faxes and so on: hardware add-ons to which files can be sent. Filing systems are for file storage and include hard discs, floppy discs and the Ram disc. In this example, from left to right, we have a hard disc (called HardDisc), floppy drive 0, the resources filing system and the Ram disc. The resources filing system contains the Rom applications and the built-in fonts (Corpus, Homerton and Trinity). Clicking Select on a filing system icon brings up a directory window for that system, and clicking Menu brings up a menu relevant to that system; on the right is the menu for floppy drive 0.

ADFS::0
Name disc
Dismount
Format
Backup
Verify
Free

The *Palette* application lets you change the screen mode and colours on the desktop. Click Menu to bring up the menu: the Mode submenu allows you to change screen mode. Click Select to bring up the palette editor window (shown right).

The Task manager forms the crux of the desktop's memory management system. Click Select on the icon to bring up the Tasks window, showing the memory allocations for such items as the font cache, Ram disc, screen memory, the module area and all the applications loaded. From the iconbar menu you can save boot files (see page 23), create task windows, and shut the system down.

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Find your way round the most important parts of your machine with the Acorn User Handbook

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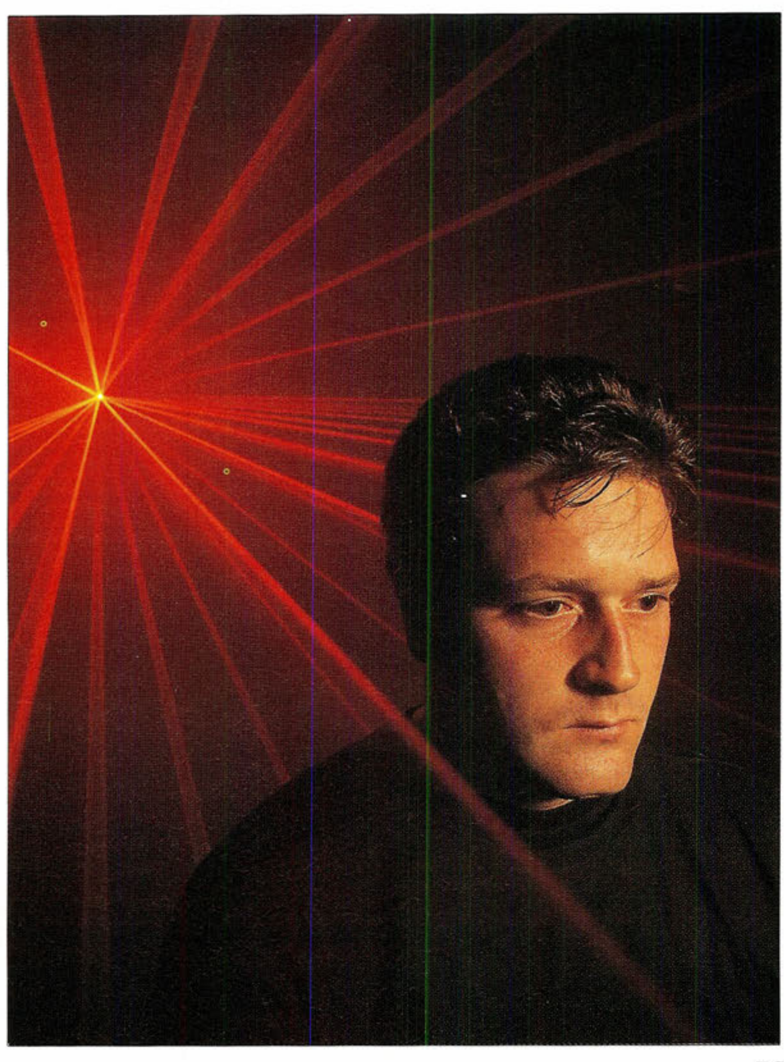
THE MOXON INTERVIEW

CHRIS ROLPH

There's no doubt about it: lasers are hip. From laser light shows to laser printers, we can't get enough of them, and Laser Grafix of Royston knows this better than most people.

'Most people don't seem to realise that a laser is just a beam of light.' says Chris Rolph, sales manager of the three-and-a-half year old company, now the UK's biggest entertainment laser company. 'It's what you do with that beam of light that makes a laser show what it is.'

And Laser Grafix certainly knows what to do with it: both Deep Purple and Elton John used Laser Graphix for their lasers on their last tours, and a large number of nightclubs – including the Camden Palace and Leicester Square's Hippodome – have equipment designed and installed by the company. But what a lot of people don't know is that behind the breathtaking effects and flashing lights lies an Archimedes, running Laser Grafix's award-winning Prisma system.



ALISTAIR MORRISON

'We saw the speed of the Arc and knew it was what we were looking for'

So why did Laser Grafix choose to base one of its most prestigious systems round Acorn equipment, rather than the more standard PC?

'Well, we used to use an American product to control the lasers, but it wasn't too user-friendly,' says Chris, 'so we started to look around for an alternative platform on which to base the processing side of a laser system.

'The obvious choice would have been an IBM, but when we saw the Archimedes – an A440 in those days – the very fast processor speed and Risc OS, we knew that was what we were looking for.'

So the Prisma system was developed. These days an A5000 is used, fitted with a specially-designed Laser Grafix expansion card. This hooks up to a laser controller, which looks like something out of a mad scientist's laboratory; a collection of mirrors, filters and motors is controlled by the Archimedes to reflect the light from a single laser into patterns, animations and all sorts of weird and wonderful effects. Coupled with the Prisma software package, whose internal workings are a closely guarded secret, it's a setup which clubs have found very attractive.

'We've sold about 35 complete Prisma systems so far,' Chris explains, 'which represents quite a considerable turnover. If you ignore the actual lasers – which we don't manufacture ourselves – then the system comprises an A5000, the special expansion card, Prisma control software, a laser controller and a special control box to replace keyboard and mouse, so non-computer users don't have to wrestle with the mouse. This alone costs around £20,240: laser systems are not cheap. When you add the laser, which can cost £25,000 for a 4.5W white laser, you're talking serious money.'

You could say that. Chris must have some serious faith in the A5000 to sell it as part of a system that is this sophisticated.

'We like the Acorn system,' he says. 'There isn't any point in spending a fortune designing and producing your own computerised control system when there are machines this powerful and this affordable around to do the job for you.

'Another point about the Acorn is if we produced an IBM-based system, we wouldn't be able to sell the system as a whole as most people already have PCs: they would simply buy the card and software and plug it into their own computers, which isn't what we want.'

And in case you don't go clubbing much or aren't keen on Deep Purple, you'll get your chance to see Laser Grafix in action at Acorn World. The Games area will have its own laser show, powered by Acorns. Will it be any good?

'Well, it will look rather small compared to some installations we've done,' Chris admits, 'but the public will love it. And when they discover there's an A5000 behind it, they'll be impressed.'

Too right. More interesting than a laser printer any day.

New from the Archimedes' spreadsheet experts comes Resultz, the ultimate spreadsheet for RISC OS.

It's packed with powerful features to help you work fast, whether you're working on a classroom project or managing your business.

It recalculates faster than any competitor, and uses background recalculation so that you're never waiting for the computer to catch up. It will automate your work with the *Fill* and *Autosum buttons* - just select a group of numbers and Resultz writes a formula which adds them up automatically.

Resultz isn't just for power users. It's designed to help novice users work productively. Interactive help makes it easy to use Resultz' comprehensive set of functions. Every time you pick one of the 190 built-in functions from the selector, *tips on using it appear on screen.*

Your data will look better than ever, with colourful charts incorporating your own pictures.

Unlike other spreadsheets, Resultz shows your pages on screen, so what you see on screen is exactly what will print out on the page (we call it *spreadsheet DTP*). The style editor places fonts and formats at your fingertips. It's easy to build *tables* and *forms*, and to add *charts* or *pictures* to worksheets.

And Resultz is just £119+VAT.

Resultz: ADFS::RJM_A4.$.Resultz.RzExamples.Reviews.Arch_World at 90%

Apply, change, create and delete styles

Archimedes World spreadsheet review July 1993

	Perform-ance	Features	Value	Overall
PipeDream 4	4	3	3	3
Schema	4	4	3	4
Eureka	4	3	3	3
Resultz	4	5	4	5

Archimedes World concluded that Resultz is the best spreadsheet program available for RISC OS. None of the other contenders beat it in any category. Their overall conclusion was **Spreadsheet breakthrough in terms of layout/presentation capabilities, with power to spare.**

RISC OS spreadsheets

PipeDream Schema Eureka Resultz

Performance Features Value Overall

resultz

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